Alternative Transportation & Greenways System Plan

City of Bloomington, Indiana

Ratio Architects, Inc.
107 S. Pennsylvania St.
Suite 100.
Indianapolis, IN 46204
(317) 633-4040

Design Guidelines

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Introduction

The intent of the Alternative Transportation and Greenways System Plan is to create a network of bicycle and pedestrian facilities for residents of all ages and mobility to walk or bike to their destination rather than taking their car. Choosing to walk or bike to work will ultimately reduce traffic congestion in the City and improve the health, fitness, and quality of life of Bloomington's residents. However, motivating individuals to walk or bike will require developing safe, convenient, and attractive facilities.

The following design guidelines are essential to the successful implementation of the vision, goals, and objectives of the Alternative Transportation and Greenways System Plan. These guidelines will assist City staff with the development of bicycle and pedestrian facilities that are safe, convenient, and attractive as well as ensure uniformity of the design, layout, and construction of these facilities throughout the City.

These guidelines should be used in conjunction with the standards developed by the City of Bloomington Public Works Department, Indiana Department of Transportation (INDOT), and American Association of State Highway and Transportation Officials (AASHTO).

The City shall develop specific pathway standards as a future update to this document that addresses the types of facilities that can be constructed in smaller pedestrian easements, as differentiated from larger right-of-ways owned by the City. However, as a policy, the City shall seek ownership of its facilities in order to address issues of liability.

Types of Users

Bicycle and pedestrian users vary in experience, mobility, as well as confidence in travelling with, or crossing, vehicular traffic. Experienced users will bike or walk with vehicular traffic even if designated facilities do not exist. However, less experienced or average users prefer to bike or walk on less busy neighborhood streets and on designated bicycle and pedestrian facilities.

Providing accessibility for users of varying experience, mobility and confidence requires careful attention to the visibility of users, width and surface condition of routes, and design speed of bicycle and pedestrian facilities.

The Alternative Transportation and Greenways System Plan attempts to improve the routes and connectivity for experienced users as well as create safe, convenient and attractive facilities to attract average users.

Preface

Facility Selection

Bicycle and pedestrians desire the same accessibility, convenience and directness of routes as do motorists.

The following list identifies key factors to consider for developing bicycle and pedestrian facilities:

- Identify key destinations that generate a large volume of vehicular traffic with limited parking including the Downtown area, Indiana University campus, and Bloomington Hospital.
- Identify key destinations that typically attract volumes of bicyclists and pedestrians such as parks, natural areas, libraries, schools.
- Determine skill level of users.
- Determine user travel patterns including desired route, time of day, and frequency of travel.
- Identify potential conflict locations between motorists, bicyclists, and pedestrians such as intersections, driveways, and mid-street crossings.
- Determine vehicular speed (not necessarily posted speed limit), volume, and type of vehicular traffic including bus, truck, and car.
- Determine frequency of traffic lights, 2-way and 4-way stops.
- Identify irregularities in pavement as well as location of utility covers and drainage structures.
- Identify on-street parking orientation, frequency and duration of use.
- Identify physical barriers including rivers, railroads, freeways, and steep slopes.
- Identify natural corridors for wildlife habitat enhancement and human enjoyment

Types of Facilities

The Alternative Transportation and Greenways System Plan identifies several types of bicycle and pedestrian facilities.

The type of facility implemented will depend on physical opportunities and constraints as well as the needs of the user. Ideally, bicycle and pedestrian facilities will connect key destinations throughout the City. However, it will not be feasible nor practical to implement just one type of facility. Merging, or transitions from one system to another will require careful attention to detail, sound engineering, and good signage.

These guidelines are divided into two sections. The first discusses general information that may pertain to more than one type of facility such as surface material, maintenance and bicycle parking. The second section gives an overview for each of the bicycle and pedestrian facilities identified in the Alternative Transportation and Greenways System Plan including:

- Signed Bike Route,
- Bike Lane,
- Sidepath,
- Connector Path,
- Sidewalk,
- Greenway,
- Multi-Use Trail, and
- Unimproved Trail.

General Guidelines

Introduction

The following general design issues are not specific to any one type of bicycle and pedestrian facility. These include:

- Surface material,
- On-street parking,
- Intersections,
- Railroad crossings,
- Maintenance, and
- Drainage.

Specific information regarding design and size, intersection treatment, and signage and pavement markings is discussed in detail under each bicycle and pedestrian facility in the following section.

Surface Material

The condition of the surface material directly affects the speed, comfort, and safety of the user. Bicycle and pedestrian facilities should be machine laid hard-surface material. Concrete and asphalt are the most popular materials used. Although more durable than asphalt, concrete is more expensive initially, more expensive to repair, and takes a longer time to cure.

Environmentally friendly alternatives to asphalt and concrete include Resin Pavement and Road Oyl. Resin Pavement is an innovative material constructed with resin modified emulsion. Road Oyl is a plant by-product aggregate binder. Both products have the same strength and durability as concrete and asphalt but do not use petrochemicals and are suitable for environmentally sensitive areas. Both products are lighter in color and reflect less heat, creating a cooler surface.

Many hard surfaces become slippery when wet and as a result, can be hazardous to users. Concrete should be broomed finished to reduce slippery qualities. Pavement markings also have a tendency to become slippery and should include Silica Beads. These colorless beads are made from recycled glass and are highly resistant to wear and weathering.

Surface irregularities can affect the stability of bicyclists and pedestrians, cause a tire or foot to become trapped and result in the loss of control. Rough surfaces may include:

- Utility structures that are not flush with pavement surface. Utility structures should not be constructed in the travel lane of bicycle and pedestrian facilities. Existing structures should be retrofitted by decreasing openings, elevation, and location if possible.

- Potholes, cracks, and edge of pavement treatment should be addressed in the facility design. The edge of pavement is susceptible to breaking and should be stabilized.
- Rumble strips, reflectors, textured pavement, and raised lane markers should be considered where appropriate.
- Bridge and surface expansion joints should be saw-cut to create a smoother travel surface for bicycles and pedestrians. Smooth asphalt joints can be created using a feathering technique.
- Persistent vegetation may cause bicycle and pedestrian routes to heave. Before construction, a nonselective herbicide should be applied. In environmentally sensitive areas, geotextiles and landscape fabric work well. The installation of a root barrier at the edge of the bicycle and pedestrian facility will prevent roots from growing underneath the trail.

On-Street Parking

On-street parking can become a hazard to both bicyclists and pedestrians. Bicyclists on bike lanes and signed bike routes could be overlooked by vehicular traffic weaving in and out of parking stalls. On-street parking that is too close to intersections and drive-ways may obstruct motorists view of bicyclists and pedestrians on intersecting sidewalks, sidepaths, and multi-use trails.

In general, the following concerns should be considered for on-street parking.

- Although parallel parking is safer for visibility, an unexpected open door or side mirror could become dangerous for a passing bicyclist.
- Angled and perpendicular parking creates the greatest conflict since visibility of the motorist and bicyclist is significantly reduced.
- Parking stalls that are used by numerous vehicles and for short durations throughout the day may create conflict for passing bicyclists.
- On-street parking may need to be restricted especially in areas with limited street width.
- Good signage, curb markings, and appropriate setbacks from intersections should reduce conflicts with bicyclists, pedestrians, and motorists.

Intersections

More conflicts among vehicles, bicyclists, and pedestrians occur at intersections than anywhere else. Reducing conflicts at intersections requires good visibility, direction, and understanding of who has the right-of-way.

The following are general guidelines to assist with the design of safe intersections for bicyclists and pedestrians.

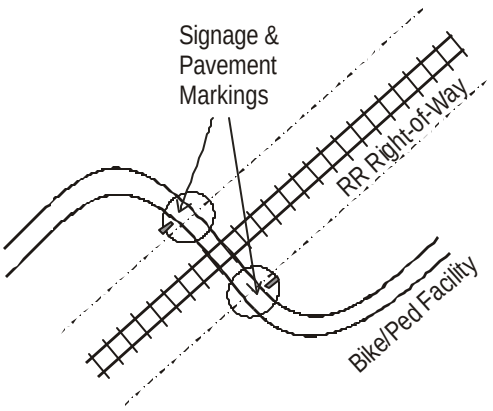
- Intersections should be simple in their configuration with good visibility, slow vehicular speeds, and plenty of space for maneuverability.
- Intersection wait time for bicyclists and pedestrians should be minimized especially at intersections with heavy bicycle and pedestrian traffic.
- Intersection crossings should be comfortable and accommodating to bicycle and pedestrian users including safe turn lanes and sufficient time to cross street.

Each type of bicycle and pedestrian facility will require a unique approach to intersections. This specific information can be found in the previous section listed by facility type.

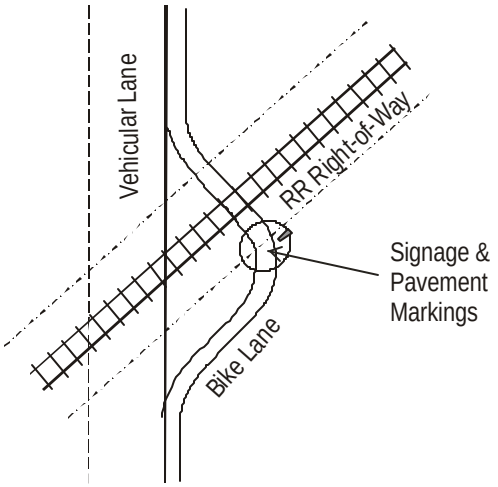
Railroad Crossings

Railroad crossings can be a major obstacle for connecting key destinations for bicyclists and pedestrians. Inactive railroad tracks should be removed for the safety of vehicular, bicycle, and pedestrian traffic. Crossing an active railroad requires careful attention to design and orientation of the bicycle and pedestrian facility including:

- Additional signage, crossing arms, and flashing lights to warn bicyclists and pedestrians of an approaching train.
- Realign street crossing or widen street shoulder so that bicyclists can cross railroad intersections at a 60-90 degree angle. A smaller angle may trap the tire in railroad tracks and cause the user to lose control.
- Create a smooth travelling surface by filling the track flangeway with a compressed filler such as rubber or concrete. A wood filler is not recommended because it becomes too slippery.



90 Degree RR Crossing



Widened Shoulder RR Crossing

Maintenance

Regular maintenance of bicycle and pedestrian facilities is necessary. Deteriorating facilities can become hazardous for the user and create a liability for the City.

Routine maintenance should include:

- Removal of accumulated sand, gravel, leaves, garbage, and debris with regular sweeping.
- Inspection of surface conditions and timely repair of potholes, cracks, and irregularities along facility edges.
- Inspection of route and roadway signs and pavement markings for readability and effectiveness. Replace deteriorating or confusing signs. Repaint pavement markings on heavily travelled routes on an annual basis.
- Inspection of drainage grates for function and smooth integration into the bicycle and pedestrian facilities.
- Mowing along the edge of routes and pruning branches from nearby trees and shrubs.
- Clearing of snow and ice to ensure safe use during winter months.

Drainage

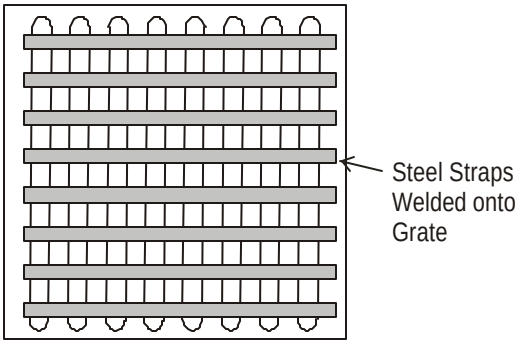
Poor drainage and placement of drainage structures can create unsafe conditions for bicycle and pedestrian users.

Ponding water can be alleviated with careful attention to the slope and layout of the facility.

- Use a 2% cross slope that drains in one direction. A cross slope will also simplify the design and construction of the facility.
- Install more efficient drainage grates or provide wider travel lanes.
- Construct a ditch to intercept water, or pipe water underneath rather than over the top of the bicycle and pedestrian facility.

The style and location of drainage structures can significantly improve the condition of the bicycle and pedestrian facility.

- If possible, keep bicycle and pedestrian facilities free of all drainage structures.
- Use curb inlets as opposed to surface inlets.
- Where drainage structures must be located within bicycle and pedestrian facilities, adjust the edge of the structure to be flush with pavement surface.
- Surface drainage grates with wide openings parallel to the direction of travel can trap tires causing the user to lose control. Short and narrow grate openings will reduce the likelihood of trapping a tire regardless of the direction of travel. A temporary solution to dangerous drainage grates involves welding steel straps 4” on-center across the grate.



Drainage Grate Modification

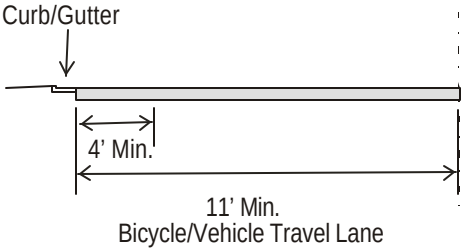
1. Signed Bike Routes

Signed bike routes are defined as a street that is safe for use by both vehicles and bicycles without a designated bike facility. These routes are identified with appropriate signage.

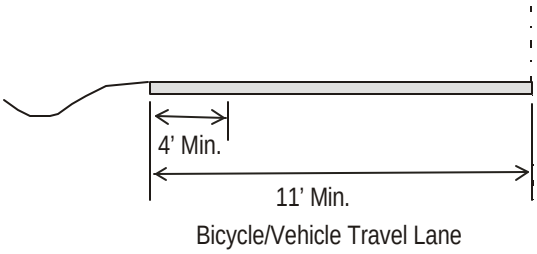
Signed bike routes work best if they are incorporated into the design and layout of the road. These bicycle facilities can also be successfully integrated into an existing road system providing the travel lane is large enough to safely accommodate both a motorist and bicycle.

Signed bike routes are low maintenance and low cost since no striping or special construction of bike facilities is required. These facilities are preferred by experienced bicyclists who are comfortable riding with traffic. However, they are less preferred by inexperienced or average bicyclists who are intimidated by vehicular traffic.

Signed bike routes also work well as short transition facilities for bicyclists to connect discontinuous segments of bike lanes, sidepaths, and multi-use trails.



Wide Curb Lane Cross Section



Wide Shoulder Cross Section

Facility Design & Size

Signed bike routes are suitable for streets with lower traffic volumes and lower vehicle speeds.

The following design and size guidelines should be followed:

- 11' minimum shared travel lane (measured from edge of pavement not including curb and gutter).
- 4' of smooth pavement is ideal for bicycle traffic if wide shoulder or curb lane is available.

Intersection Considerations

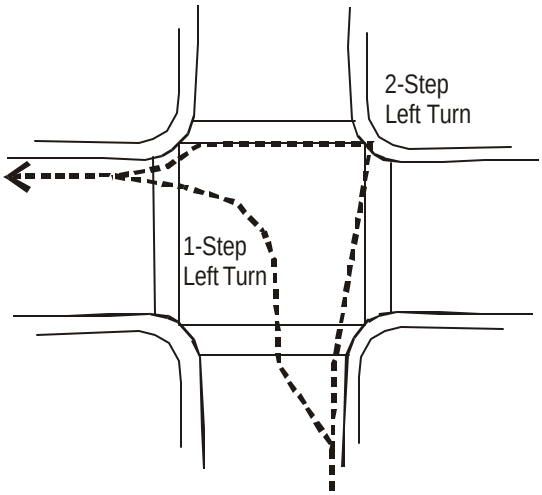
Intersections can be extremely dangerous for motorists and bicyclists. Signed bike routes require bicyclists to ride in traffic. There are two key points to remember when designing a signed bike route:

- On-street bicyclists should proceed and follow the same rules as motorists.
- On-street bicycle facilities should be direct and as close to vehicular route as possible.

Simple modifications to intersections should reduce some of the conflict and confusion between motorists and bicycles. These include:

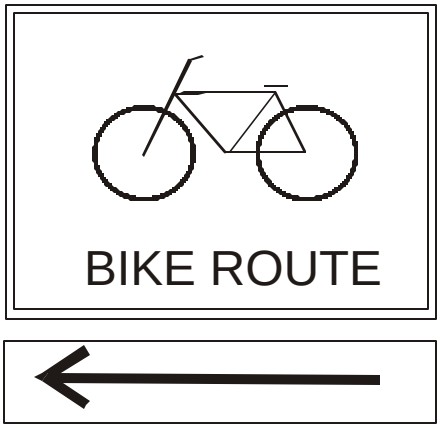
- Provide adequate sight distances for both motorists and bicyclists.

- Assign priority of 2-way stop intersections to streets with signed bike routes. This will allow bicyclists to keep their momentum as well as stop intersecting vehicular traffic.
- Add signage at intersections to alert motorists of bicycles. Unless the bicyclist is turning left, they will be riding furthest to the right.
- Use “No Turn on Red” and “Right Turn; Yield to Bikes” signage.
- Note: Experienced bicyclists will weave through traffic to make left turns as a motorist would. Less experienced bicyclists may opt for a 2-step left turn



Bicycle Left Turns

- Alerting motorists that bicyclists will be sharing the road.
- Providing continuity with other bicycle facilities.
- Identifying key destination information.
- Marking pavement for a signed bike route at the beginning of the route and at intersections.



Signed Bike Route Sign

Signage & Pavement Markings

Good signage is essential on signed bike routes. Bike route signs should be located every 1/4 mile as well at major intersections. Other reasons for signs include:

- Identifying streets as safe for shared use by vehicles and bicycles.

2. Bike Lanes

Bike lanes are defined as a portion of the road that has been designated and designed for the exclusive use of bicycles with distinct signage and pavement markings.

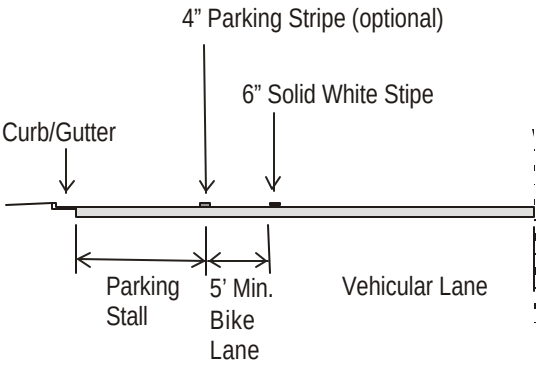
Bike lanes have a channelizing effect on traffic and allow for more predictable movements of cars and bicycles. Less experienced bicyclists are much more confident in a bike lane versus a signed bike route.

Bike lanes should:
- Travel in one direction only.
- Travel in the same direction as vehicular traffic.
- Be located on the right side of the street (unless bike lane is to the left of a vehicular right turn).

Facility Design & Size

Bike lanes can be integrated onto most city streets providing that the following space requirements are met:
- 4' bike lanes are suitable for streets with 30-40 mph traffic; 5' for streets with vehicular speeds greater than 40 mph.
- 5' bike lane on streets with curb and gutters; 4' bike lane without curb and gutters.

Bike lanes should always be located between on-street parking and vehicular travel lanes. The dimension of bike lanes may vary depending on the type of on-street parking.
- 5' bike lanes should be located on streets with marked parking stalls.
- Bike lanes should be an additional 1-2' wide in areas with short-term, high demand on-street parking.



Bike Lane Cross Section

Intersection Considerations

Conflicts between motorists and bicyclists are greatest at intersections. Good signage and pavement markings with clear directional information will reduce potential conflicts.

Typically bike lane pavement markings will stop before the intersection and pedestrian crossing markings. It is advisable to continue a dotted line through the intersection to:
- Alert motorists at busy intersections of bike traffic.
- Provide safe access for bicyclists progressing through T-intersections.

Motorists making right turns do not always see bicyclists approaching the intersection especially if they are attempting to position themselves in a right turn only lane. The following are options that will allow for improved bicycle safety in right turn lane situations:
- Continue the solid stripe of the bike lane to the intersection.

- Use a dotted line or end the bike lane stripe to allow traffic to merge to the right.
- Use “Share the Road” signage or “Right Turn; Yield to Bikes”.

Left turns are more complicated for bicyclists because they may require weaving through multiple lanes of traffic. Left turns by bicyclists are often unanticipated by motorists. Bicyclists will typically use one of the following two options when making a left turn:

- Experienced bicyclists may wish to merge with left turning traffic and turn as a vehicle would.
- Less experienced bicyclists may decide to undertake a 2-step left turn which requires travelling straight through the intersection, stopping at the far corner and then proceeding straight again when permitted.

Sensors or loop detectors, push buttons activators, and a separate green light for bicycle/pedestrian crossings are all options to promote safer crossings at busy intersections

Signage & Pavement Markings

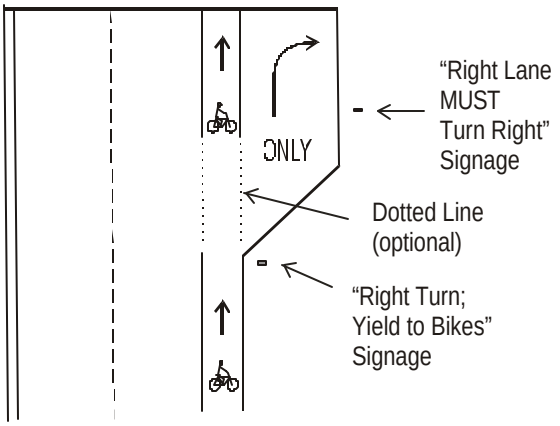
Signage and pavement markings are essential to on-street bicycle facilities. Repetition of information on signs and pavement will reinforce messages for bicyclists and motorists alike.

Signs and pavement markings should be used to:

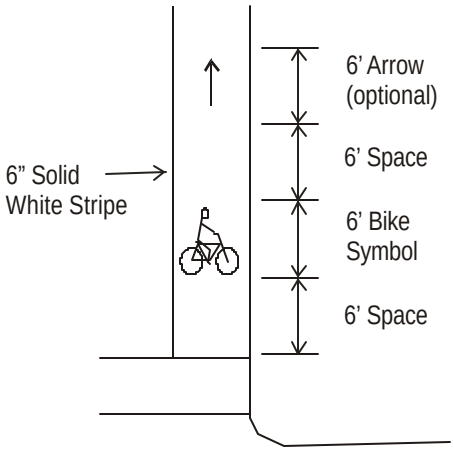
- Indicate direction of travel.
- Identify bus stops, pedestrian crossings, destinations, steep grades, sharp turns, etc.

Bike lane pavement markings should include:

- A 6” wide solid white line to separate bike lanes from vehicular traffic.
- A 4” wide solid white line to separate bike lanes from on-street parking spaces.
- Striping on entry and exit of intersections.
- Bicycle stencils, directional arrows, and diamonds at every major intersection. Additional stencils may be needed along longer stretches of bike lane.



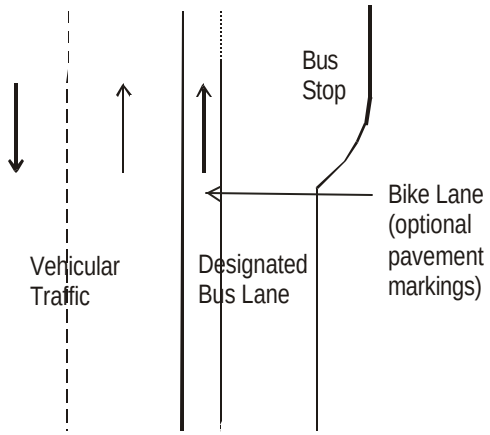
Bike Lanes & Vehicular Right Turns



Bike Lane Pavement Markings

Bicycle/Bus Lane Combination

It is possible for buses and bicycles to share a designated lane. Buses travel at lower speeds and make frequent stops, making it safe for bicycles to pass on the left side (except for school buses).



Bike/Bus Lane Combination

3. Sidepaths

Sidepaths are defined as hard-surface paths physically separated from the road with a grass or tree plot within the road right-of-way for use of two-way bicyclists, pedestrians, and other non-motorized users.

Sidepaths are good for less experienced or recreational bicyclists since they are physically separated from vehicular traffic.

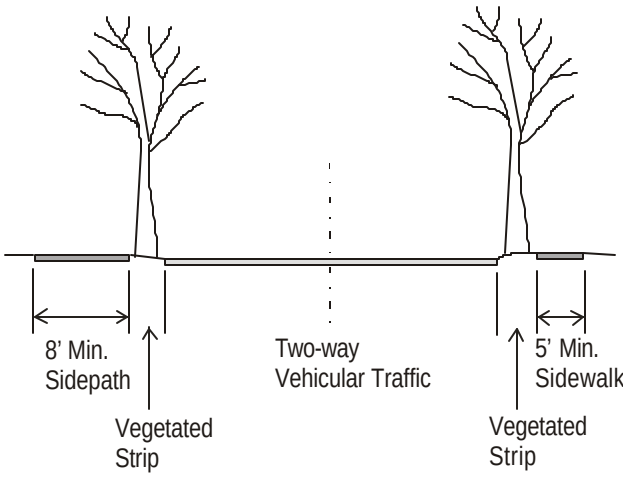
Sidepaths require a large road right-of-way and can be difficult to retrofit along existing streets. Ideally, one side of the street would be used for a two-way bicycle sidepath and the other side of the street for pedestrian use. Mixed uses on the sidepath may result in user conflicts.

Sidewalks may be converted to sidepaths if narrow stretches of road, bridges, or ramps do not provide enough space for bicyclists. Converting sidewalks to sidepaths should be done with caution for the following reasons:

- Bicyclists travel at a faster speed and have slower reaction times than pedestrians.
- Standard sidewalk furnishing such as light poles, bus shelters, benches, garbage cans, parking meters, etc. will have to be relocated to accommodate bicyclists.
- Motorists are not expecting bicycles on sidewalks at intersections.

Facility Design & Size

Sidepaths are meant for both bicycle and pedestrian traffic and should be at least 8' wide. The vegetated buffer between the sidepath and street should be at least 4' wide. If sufficient right-of-way exists two-way bicycle traffic should be separated from pedestrian traffic with the sidewalk located on other side of the street.



Sidepath Cross Section

Intersection Considerations
(see Multi-Use Trail Intersection Considerations)

Signage & Pavement Markings
If the sidepath is heavily used by two-way traffic then a 4" wide solid line should be painted down the center to delineate travel lanes. Directional arrows should not be necessary. Signage should be used to remind users of shared trail etiquette or to direct pedestrians to a separate sidewalk facility.

Sidewalks converted to sidepaths will require good signage to warn pedestrians to anticipate bicycle traffic.

4. Sidewalks

Sidewalks are defined as a hard-surface path within the street right-of-way that is designated for the exclusive use of pedestrian traffic.

Facility Design & Size
Sidewalks should be at least 5' wide, formed of concrete with a textured, nonslip surface. Saw-cut joints create a smoother, more comfortable surface for strollers, wheelchairs, etc. Ideally, sidewalks should be buffered from the street with a grass or vegetated strip.

Signage
Signage may be used to identify destinations, bus stops, and intersections. Signage should be set back off of the sidewalk or high enough to prevent obstructing views or interfering with pedestrian.

Intersection Considerations
Pedestrian crossings at street intersections should:

- Be unobstructed by cars, buildings, vegetation.
- Intersect with street at 60-90 degrees.
- Have crosswalk striping the same width as the sidewalk.
- Include refuge islands on busy streets, especially if there are a lot of elderly, disabled, or children crossing the street.
- Include motion detectors, pressure mats, push button activators for pedestrians.
- Include ADA compliant ramps.

On-Street Parking
On-street parking provides a good buffer between the sidewalk and street traffic.

5. Connector Paths

A connector path is defined as a hard-surface linkage or shortcut between key destinations that is not accessible by automobiles.

Connector paths provide great opportunities to link neighborhoods, entertainment, commercial areas, and schools with nearby bicycle and pedestrian routes. Drainage and utility easements make great connectors between neighborhoods and other destinations.

Bollards, or some other type of physical deterrent may be necessary at the end of the connector to restrict access to vehicular traffic access and suggest a private entrance to other trail users.

Facility Design & Size

Connectors typically link neighborhoods to a nearby trail or destination. Traffic on this type of connector is usually light. However, to safely accommodate multiple users an 8' wide hard-surface trail is recommended.

Intersection Considerations

Intersections should have good visibility, signage, and ideally meet at a 60-90 degree angle. (see Multi-Use Trail Intersection Considerations)

Signage & Pavement Markings

Signage should be used to identify destinations, intersections, and any trail hazards.

No pavement markings are necessary.

6. Greenways

A greenway is defined as a linear wooded or open space along waterways, utility lines, non-vehicular public right-of-way, and natural corridors.

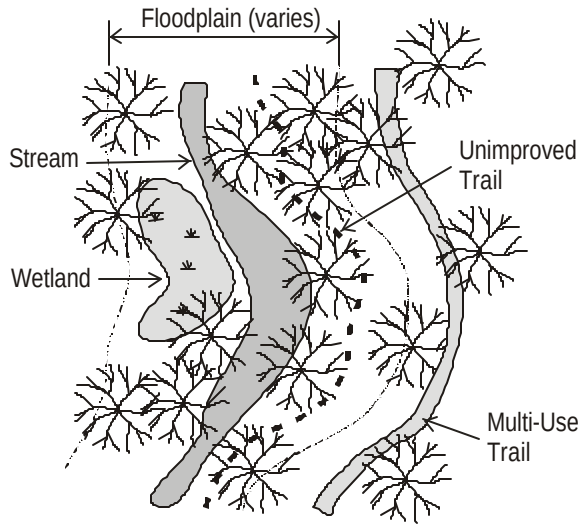
Greenways provide a great opportunity to protect natural corridors and connect natural islands fragmented by development. With careful consideration for maintaining the natural integrity of the site, greenways provide an opportunity for trail development.

Facility Design & Size

Greenways vary in size. Corridors along waterways should include contiguous riparian, floodway, and wetland areas. Trails in greenways should be between 25' to 200' from environmentally sensitive areas.

Trails in greenways may be constructed in either of the following ways:

- Unimproved 6-8' trail composed of pervious material such as mulch, loose gravel, or soil. (see Unimproved Trail Facility Design & Size)
- Multi-use 6-8' hard-surfaced trail constructed with some sensitivity to the surrounding environment (see Multi-use Trail Facility Design & Size)



Greenway Delineation

Signage

Interpretive signage along the trail will be useful in promoting environmental awareness and stewardship among trail users.

Maintenance

Regular removal of invasive and non-native plant material will be necessary on a regular basis.

7. Multi-Use Trails

Multi-use trails are defined as a hard-surface, off-road path for use by bike, foot, and other nonmotorized traffic typically located within or along a greenway.

Multi-use trails are ideal for recreational use since these trails can support a variety of two-way users. Multi-use trails are a valuable asset to a bicycle and pedestrian network and should be used to supplement on-road facilities.

Multi-use trails may focus on a particular theme or celebrate local history, surrounding natural features, or notable landmarks. Trailheads and rest areas along multi-use trails may have benches, water fountains, trash cans and displays of public art.

Facility Design & Size

Multi-use trails are typically10-12' wide with at least a 2' crushed gravel shoulder. In environmentally sensitive areas, or where volume of users is expected to be low or infrequent, 6-8' trails may be appropriate. In areas where the volume of use is high and type of user diverse, pedestrian and bicyclists/roller bladers should be physically separated to reduce conflicts.

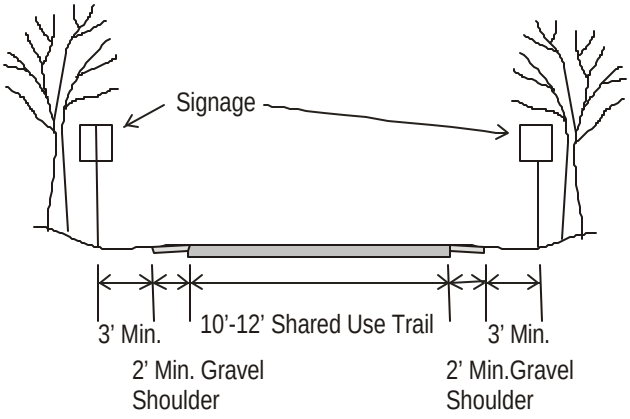
Bicyclists and pedestrians should be separated if:

- The trail is used for long distance commutes and therefore experiences faster speeds
- There is a high volume of diverse users (2000 or more users/day).

Controlling speed on multi-use trails is important to the safety and enjoyment of all trail users. The minimum design speed for multi-use trails is 20 mph. Speeds any faster than this are inappropriate for mixed use.

Speed of users is determined by:
- Type and condition of bicycle and user.
- Purpose of trip.
- Condition, location, and grade of trail.
- Speed and direction of wind.
- Number of users on trail.

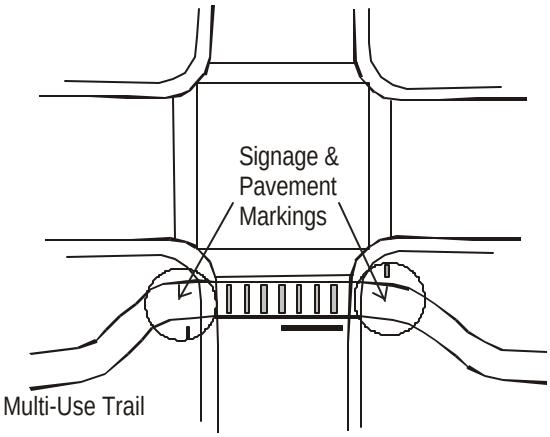
Vehicular access can be controlled with bollards, low landscaping, or two smaller one-way trails.



Multi-Use Trail Cross Section

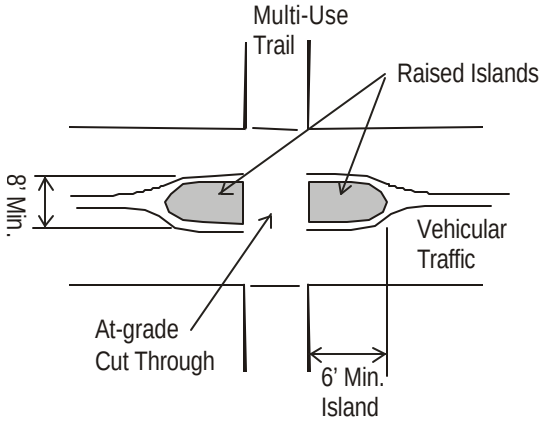
Intersection Considerations

Multi-use trails typically have a limited number of street crossings. However, conflicts with motorists still exist. Intersection features at multi-use trails may include:
- Flashing lights at trail crossings.
- Crosswalks that are the same width as the trail.
- Designated green lights for trail users.
- Infrared motion detectors, pressure mats, button activated crossings, etc.
- Refuge islands for trail users especially those with reduced or limited mobility.



Multi-Use Trail Intersection

Mid-block crossings for multi-use trails are fairly common and require good signage, pavement markings and sometimes overhead flashing lights to alert motorists to crossing bicyclists and pedestrians. Some key considerations of mid-block crossings include:
- Ensure adequate separation from existing intersections. Motorists are often distracted when approaching an existing intersection with merging, accelerating, deceleration, turning, etc.
- Use refuge islands for trail users to wait until they can safely cross busy streets.



Multi-Use Trail Refuge Island

Signage & Pavement Markings

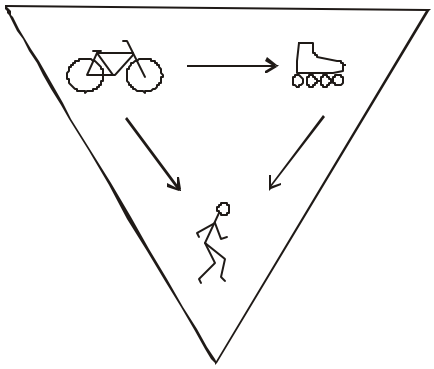
Good signage and pavement markings are needed on multi-use trails to ensure that trail users do not conflict with one other as well as with motorists at intersections.

The use of signage is important to:

- Alert users of potential conflict points - steep slopes, sharp curves, intersections.
- Post trail direction and destinations.
- Ensure that trail names, theme, mile markers, etc. are adequately identified
- Identify cross street names.
- Remind users to share path and to give notice when passing.

Pavement markings may include:

- A 4" wide yellow centerline. Use broken line if good sight distance is available for passing.
- A 4" wide white line to mark edge of trail. This is especially important for early morning and evening users.



Multi-Use Trail Signage

8. Unimproved Trails

An unimproved trail is defined as a less intrusive path utilizing pervious materials such as crushed limestone, bark mulch, or exposed soil surface. Unimproved trails may restrict all types of users but may be the best solution for greenway areas considered environmentally sensitive.

Facility Design & Size

Unimproved trails are designed for lower speeds and grades. Speeds less than 15 mph and grades of 3% or less are suitable for unimproved trails

Trail width may vary depending on the conditions of the surrounding area. An unimproved trail of 6-8' will allow for multiple users.

Surface Material

Pervious materials such as bark mulch, loose gravel, or exposed soil are suitable surface materials.

Appendix

Sources

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Plan Development

Alternative Transportation & Greenways System Plan

Ratio Architects, Inc.
107 S. Pennsylvania St.
Suite 100.
Indianapolis, IN 46204
(317) 633-4040

Preface

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Appendix

Preface

What is Alternative Transportation?

Alternative transportation emphasizes forms of transportation that are not dependent on the personal automobile. For the purpose of this plan, alternative transportation will focus on the needs of the cyclist, walker, rollerblader, and other non-motorized means of travel. This plan acknowledges buses as a form of alternative transportation, but recognizes bus systems independently.

An alternative transportation system can be implemented in many forms. For the purpose of this plan the routes identified on the map are for specific alternative transportation purposes including:

Signed Bike Route - A street that is safe for both vehicles and bicycles without a designated bicycle facility. These routes are identified with appropriate signage.

Bike Lane - A portion of the road that has been designated and designed for the exclusive use of bicycles with distinct signage and pavement markings.

Sidepath - A hard-surface path physically separated from the road with a grass or tree plot within the road right-of-way for use of two-way bicyclists, pedestrians, and other non-motorized users.

Connector Path - A hard-surface linkage or shortcut between key destinations that is not accessible by automobiles.

Sidewalk - A hard-surface path within the street right-of-way that is designated for the exclusive use of pedestrian traffic.

What is a Greenway?

The focus of this plan is primarily to implement an alternative transportation system that connects key destinations in the City. Greenways can link such destinations through and along natural or “green” corridors. Trail development in greenways can serve multiple purposes. It can buffer and protect the greenway in its natural state and also provide a great setting for both recreational-based and alternative transportation activities.

Greenway - The linear wooded or open space along waterways, utility lines, non-vehicular public right-of-way, and natural corridors.

Multi-use Trail - A hard-surface, off-road path for use by bike, foot, and other nonmotorized traffic typically located within or along a greenway.

Unimproved Trail - A less intrusive path utilizing pervious materials such as crushed limestone, bark mulch, or exposed soil surface. Unimproved trails may restrict all types of users but may be the best solution for greenway areas considered environmentally sensitive.

Throughout the plan the alternative transportation and greenways system will be referred to as routes or bicycle and pedestrian facilities unless a specific reference is warranted.

Benefits of Alternative Transportation & Greenways

Introduction

A convenient, safe, and well-designed alternative transportation and greenways system will directly benefit numerous individual users, and indirectly benefit the entire community. Although there are many benefits, the primary benefit targeted by this Alternative Transportation and Greenways System Plan is to reduce the dependency and use of motor vehicles. This requires providing efficient and well-planned routes for bicycle and pedestrian commuters, and tying into the public transit system.

Beyond mitigating traffic, a network of bicycle and pedestrian routes will result in many benefits which the City of Bloomington is striving to accomplish. These include:

- Reduce traffic congestion,
- Non-driver accessibility,
- Quality of life,
- Health and wellness,
- Economic and tourism, and
- Environment.

On this and the following pages, the benefits of alternative transportation and greenways systems are identified and discussed.

Reduce Traffic Congestion

One of the most important benefits of an alternative transportation and greenways system is to minimize the use of cars. Many of our city streets have more vehicles using them than they were designed or originally intended to carry. This has resulted in increasing road maintenance costs, building new and wider roads, traffic congestion, driver frustration, longer commute times, and increased use of nonrenewable energy resources.

A 1995 National Personal Transportation Survey found that 40% of all vehicular trips in the United States are less than two miles in length. Such short trips could be achieved with a 10 minute bike ride or a 30 minute walk. According to a similar survey, 40% of American adults said they would commute by bike if safe routes were available. These studies, along with many others, portray a society dependant on vehicles, but willing to utilize an alternative transportation and greenways system if safe, convenient, and attractive facilities are available.

Developing alternative transportation and greenways systems use less land and resources than similar systems for vehicular traffic. The maintenance cost per square foot is much less for alternative transportation and greenways systems than roadways. Therefore, even a small shift from automobile to alternative transportation can reduce the overall cost to the City for transportation related projects and maintenance.

Reducing the use of motor vehicles can aid in solving parking issues and consumption of land for parking spaces. Facilities for parking and storing bicycles require much less space and expense than an equal number of spaces for vehicles.

Reductions of automobile traffic results in a greater degree of safety for motorists, bicyclists, and pedestrians. The National Personal Transportation Survey found that adding paved bike lanes on two lane roads significantly reduced the number of traffic conflicts.

Non-Driver Accessibility

An alternative transportation and greenways system is a necessity for non-drivers within a community. The most common classifications of people without drivers licenses or cars are the young, elderly, disabled, college students, persons with poor driving records, or persons with low incomes. In fact, a large percentage of our population, approximately 30%, is unable to drive due to age, disability or income. Additionally, a small percentage of people choose to not own a vehicle.

Many of these individuals depend on buses, bicycles, or walking to get to work, stores, school, and other necessary destinations. A safe and efficient alternative transportation and greenways system such as bike lanes, multi-use trails, and public transit will better accommodate this segment of the population.

Benefits of Alternative Transportation & Greenways

Quality of Life

Quality of life makes a community a more desirable place to live for young and old, rich and poor, families, and individuals. Quality of life is the most influential factor in attracting and retaining new residents, businesses, industry and tourists.

Alternative transportation and greenways systems have a positive effect on the quality of life within communities. Many communities recognized as having exceedingly high quality of life have well developed alternative transportation and greenways systems. In fact, it is well documented that residents, businesses and industry are attracted to communities that have bicycle and pedestrian facilities.

Local quality of life is influenced by many factors. Some of these factors include economic vitality, consumer opportunity, transportation, natural environment quality, quality of education, ease of accessibility, recreation opportunity, health and safety, arts and culture, and community character.

Bicycle and pedestrian facilities invite people to experience their surroundings which in-turn leads to human interaction, healthier populations, and a heightened sensitivity to community aesthetics; especially pedestrian-scale design features. Bicycle and pedestrian facilities allow people to enjoy their community in a way that motorists cannot.

Bicycle and pedestrian facilities also increase opportunities for recreation, and promote environmental protection resulting in more attractive and more livable communities.

Health & Wellness

Exercise is essential to maintaining good health throughout our lives. Regular exercise builds one's self-esteem and energy level, as well as reduces numerous illnesses including heart disease, high blood pressure, and obesity. Bike lanes and multi-use trails provide safe and inexpensive opportunities for residents of all ages to improve their overall health.

According to the U.S. Surgeon General and the American Medical Association, 60% of Americans do not exercise on a regular basis and 40% are overweight. Heart disease, the number one killer of Americans, has been directly linked to obesity. Children and teenagers are less physically active than previous generations resulting in greater medical problems.

People who are healthy and exercise regularly have fewer claims against their medical insurance and spend fewer days in the hospital. The Texas Department of Health's Chronic Disease Community and Worksite Wellness Program actively promotes building bicycle and pedestrian facilities as part of a strategy to encourage healthy living.

Former President Clinton's Council on Physical Fitness recommends that one of the best things local communities can do to promote healthy lifestyles is to provide more greenspace and bicycle and pedestrian facilities.

Benefits of Alternative Transportation & Greenways

Economic & Tourism

Investing dollars in alternative transportation and greenways will yield a substantial return on the community-wide investment. This return will be in the form of increased personal savings for users, increased property values, increased tourism revenue, and an increase in business recruitment, among other factors. The amount of return cannot be accurately calculated because of the complexity of benefits, unquantifiable nature of some benefits, and the lack of statistical research over time. However, some examples of how other communities have realized economic and tourism benefits from alternative transportation and greenways systems are provided below.

Personal Savings

A bicycle and pedestrian system that is designed for daily commuting can result in significant personal savings for the users. Owning and operating a bicycle for commuting is significantly less expensive than owning and operating a vehicle.

The League of American Bicyclists estimates that the cost of maintaining a bicycle for commuting is approximately $120/year. Whereas the average cost of operating a car is approximately $5,000/year. According to the 1998 U.S. Census, 13% of a typical household income is dedicated to owning and operating a car.

Residents across the country who are able to commute using bike lanes and multi-use trails save thousands of dollars each year in commuting costs.

Increased Property Values

The existence of bicycle and pedestrian facilities and greenspace amenities also factors into the decisions of potential home buyers. People are searching for and demanding residential areas that include parks, bicycle and pedestrian amenities, and natural areas.

Bicycle and pedestrian facilities and greenways in or near neighborhoods have been proven to increase residential property values. In relation, developers are able to get equivalent premium on lot sales along greenways as they do for lot sales on golf courses.

A 1998 study in Brown County, Wisconsin found that homes along the Mountain Bay Trail sold faster and for an average of 9% more than comparable property off the bicycle and pedestrian facilities. Homes in proximity of the very popular Monon Trail in Indianapolis have experienced a similar boost to their property value. Home buyers actively seek out property with bicycle and pedestrian access and are willing to pay premium fees.

The developer of the Shepherd's Vineyard subdivision in Apex, North Carolina, incorporated greenways into the design of the development and advertised the greenways as a selling point in marketing brochures. As a result, the lots adjacent to the greenways sold the fastest and sold for an average of $5,000 more than similar lots in the subdivision that were not located along the greenway.

Increased property values can produce increased property tax revenues. A study of the impacts of greenways on neighborhood property values in Boulder, Colorado re-

vealed that aggregate property value for one neighborhood was approximately $5.4 million greater than if there had been no greenway. This resulted in approximately $500,000 in additional property tax revenue annually.

Increased Business Revenue

Bicycle and pedestrian facilities have a positive effect on adjacent retail, restaurant and entertainment businesses. Businesses along routes, especially those that are commuter or recreation-related, have been known to flourish with the increased use of the bicycle and pedestrian commuters. Bike and in-line skate repair/rental shops, clothing shops, restaurants, and coffee shops are examples of businesses that can benefit from increased bicycle and pedestrian traffic.

Prior to the development of the Pinellas Trail through the small town of Dunedin, Florida, businesses were suffering and the downtown storefront occupancy rate was at 30%. Today, revenue from bicycle and pedestrian facility users has spurred economic activity. Business is booming and there is now a waiting list for businesses who wish to relocate to the downtown.

Marketability of Community

Bicycle and multi-use trails that link key destinations can make a community more appealing to businesses, industry and people in search of a better quality of life. Communities with alternative transportation and greenways systems successfully attract technology related, professional, and cutting-edge businesses and industry. Further, they are able to keep executives and managers in the community as residents.

Livability is an important factor for businesses looking to relocate. The Rails-to-Trail Conservancy reports that businesses look at schools, housing, and proximity and abundance of outdoor recreational spaces. In Pueblo, Colorado trail and park development along the Arkansas River and Fountain Creek became a major component of the City's economic revitalization strategy.

Throughout the country, alternative transportation and greenways systems have been successfully marketed to enhance tourism and the local economy through lodging, retail, entertainment, and dining. The RiverWalk in San Antonio, Texas has become a main tourist attraction for the City and is the second most important tourist attraction in the state.

Visitors and Tourism

Tourism is the third largest industry in the country. More and more travellers are interested in visiting locations that offer recreational opportunities. Local communities not only benefit when tourists spend money on food, lodging, and souvenirs, but also recreational supplies for boating, fishing, bird watching, and bicycling.

A 1999 trail users study on the Little Miami Scenic Trail in Ohio found that visitors spent an average $13.50 per visit just on food, beverages and transportation to the bicycle and pedestrian facility. An additional $275 per visit is spent locally by visitors each year on clothing, equipment and accessories to use during these trips.

Contact with nature is important to many visitors of bicycle and pedestrian systems. The US Fish and Wildlife Service has determined that Americans spend more money each year to watch wildlife than is spent on movies or sporting events.

Benefits of Alternative Transportation & Greenways

Environment

Alternative transportation and greenway systems can significantly benefit the quality of our land, water, and air resources. Short, frequent trips made by automobiles create a substantial amount of pollution. Much of these harmful pollutants can be filtered or trapped by the trees, shrubs, and grasses in greenways before mixing with the air we breath and water we drink. Natural corridors also provide valuable linkages and habitat for urban wildlife.

Air Pollution

Air pollution is becoming increasingly problematic. Many communities throughout the United States do not currently meet the clean air standards established by the U.S. Environmental Protection Agency.

Automobiles cause a significant amount of air pollution. In fact, 31% of total carbon dioxide, 81% of carbon monoxide, and 49% of nitrogen oxide emissions in the United States are the result of increased vehicular traffic and the frequency of short trips. In contrast, non-motorized alternative transportation such as biking and walking releases no air pollution into the environment.

Greenways and other natural areas are able to improve the air quality by filtering and absorbing pollutants such as ozone, sulfur dioxide, and carbon monoxide and releasing oxygen. Therefore the more greenways preserved and maintained in healthy conditions, the more air filtration can be accomplished.

Water Quality & Flood Mitigation

Greenways are able to improve water quality and minimize flooding. Streamside forests act as a filter, trapping nonpoint source pollutants. These pollutants, including sediment, pesticides, fertilizers, oil, gas, and other chemicals, are transported into streams, rivers, and lakes by stormwater when it rains or snows. Without protected greenways, rivers and streams would be more polluted, which increases human health concerns, increases the costs of drinking water pretreatment, destroys aquatic species, and decreases the overall quality of the area.

Flooding causes more damage to communities across the country than all other types of natural disasters combined. Flooding is costly not only in terms of the value of property lost but also lives lost. One reason for this loss is the fact that many flood-prone areas have been inappropriately developed. Setting aside land along rivers and streams in the natural floodplain helps lessen the impacts of flooding.

The Federal Emergency Management Agency estimates that approximately 10 million homes are located in floodplains across the nation and that flood damage alone costs $1 billion in property damage each year. This is money that could be allocated elsewhere if these natural floodplains were protected and managed as greenways.

Benefits of Alternative Transportation & Greenways

Wildlife Linkages & Habitat

Greenways preserve natural systems and processes. Protecting greenways is one of the few ways to preserve wildlife habitat and migration routes in urban areas.

Much of the habitat wildlife depends upon has become fragmented by changes in land use and development along rivers and in upland wooded areas. Wooded greenway corridors can effectively link fragmented islands of habitat for wildlife.

Greenways provide good habitat to sustain wildlife. The vegetated land-water edge of a healthy river system is ecologically important for providing food, cover, and water for a variety of animal and plant species.

Vision, Goals & Objectives

Introduction

The Alternative Transportation and Greenways System Plan described in this chapter reflects substantial public and interest group input. This Plan also incorporates analysis of many alternatives put forth by City staff, and the consulting planners and engineers. Public and key interest group input was used to formulate the big-picture goals and objectives, while the detailed analysis of the Plan's components was developed by the professional consultants.

The Alternative Transportation and Greenways System Plan is an aggressive approach aimed primarily at establishing a core network of commuting and recreation routes for pedestrians and bicyclists. It intentionally has some degree of vagueness to ensure flexibility and adaptability as needed over the next ten years.

Plan Vision

The vision of this Plan is to transform the City of Bloomington into a community with a network of safe, convenient and attractive bicycle and pedestrian facilities necessary to efficiently connect people to local destinations. Through city-wide policies, partnerships, ordinances and promotion, the alternative transportation and greenways system will significantly challenge the need to use motor vehicles by providing an equally convenient and lower cost means of reaching destinations in the City.

With the installation and proliferation of bicycle and pedestrian facilities for commuting, the City shall realize an evolution of linear recreation and fitness opportunities, especially when seamlessly integrated with the park system's multipurpose paths, nature trails, and diverse park facilities.

The city-wide system of bicycle and pedestrian facilities shall complement the City's policies for the environment, land use, and transportation while enhancing quality of life, sustaining vitality and defining community character. Thus, Bloomington's alternative transportation and greenways system will further its ability to stay on the forefront of community needs and expectations.

City Profile

The City of Bloomington represents a unique opportunity for implementation of an alternative transportation and greenways system. The following factors better assure the successful design, implementation, and most importantly use of a system in Bloomington.

- A college town with a high percentage of students,
- Has a highly educated population,
- Compact urban form development pattern,
- A high level of environmental awareness, and
- A strong desire to reduce vehicular traffic and congestion.

College Town

Bloomington is a vibrant and exciting college town. The young, culturally diverse, and well educated population in Bloomington is most likely to embrace an alternative transportation and greenways system and make it successful.

The majority of residents in Bloomington are in some way affiliated with Indiana University. Many of whom do not live on-campus or in a neighborhood adjacent to the campus, and therefore must commute to campus.

As a college town, parking on campus and around downtown is limited and expensive. Both the Indiana University and Bloomington Transit systems serve the City very well; however, a network of safe, convenient, and well-designed bicycle and pedestrian routes could provide additional transportation options for residents moving in and around the City.

Highly Educated Population

Highly educated people are attracted to Bloomington because of its progressive thinking, cultural amenities, and high quality of life. Typically, this same demographic group appreciates and utilizes an alternative transportation and greenways system.

Compact Urban Form

Bloomington's downtown and older neighborhoods benefit from having a compact urban form. Typically, these are areas that have mixed land uses and higher density development. Compact urban form allows for more efficient transportation, public services, and preservation of open space.

Bloomington's existing, and continued pursuit of compact urban form development will benefit from the successful implementation of the Alternative Transportation and Greenways System Plan. Communities without compact urban form are at a disadvantage regarding alternative transportation and greenways because key destinations are spread out as a result of sprawl and low density development.

Moving people from their cars onto bicycle and pedestrian routes requires destinations that are in close proximity to one another. National averages indicate that bicyclists will commute approximately 3 miles (15 minute ride) and pedestrians up to a 1 mile (10-15 minute walk) to reach their destination. Major employment, and commercial areas in Bloomington are clustered in key locations throughout the City which should make them easily reached by foot or bike from surrounding residential areas.

Environmental Awareness

Bloomington has several environmental, bicycle, pedestrian, and parks groups that are cognizant of the environmental implications of an automobile-dominated society. Furthermore, the City recognizes the importance of maintaining the integrity of the natural environment. This is reflected in the fact that the City employs an environmental planner and stormwater engineer. This deep respect for the environment serves as a strong foundation for a successful Alternative Transportation and Greenways System Plan. This Alternative Transportation and Greenways System Plan is intended to complement the efforts of City staff and environmental, bicycle, pedestrian, and parks groups alike.

Traffic Congestion

Bloomington is similar to communities all over the nation that are experiencing traffic congestion. According to the Bloomington/ Monroe County Year 2025 Transportation Plan, the population and traffic congestion in Bloomington are increasing at a disproportional rate: 1.2% and 5% respectively leading to increased traffic problems.

Several factors contributing to the increase in vehicular use include:

- Multiple workers in each household,
- Development on the City fringe versus redevelopment and infill,
- Lack of alternative transportation and greenways options,
- Increase in out-of-house activities,
- Decentralization of schools and employment centers, and
- Increase vehicular trips from surrounding counties for recreation, employment, and shopping opportunities in Bloomington.

The alternative transportation and greenways system will create a network of safe, convenient, and attractive facilities throughout Bloomington that will entice motorists to leave their cars behind and bike, walk, or take the bus to work and to run errands.

Vision, Goals & Objectives

Goals & Objectives

The Alternative Transportation and Greenways System Plan identifies long-range, goals and objectives for the City of Bloomington. With this in mind, the goals and objectives listed on the following pages are intentionally vague in nature to allow for flexibility and adaptability as needed over the next ten years.

The goals and objectives for this Plan have been divided into the following seven topics areas. These include:

1. Bicycle and Pedestrian Users,
2. Connectivity,
3. Funding,
4. Maintenance,
5. Environment,
6. Economic Development, and
7. Tourism.

The goals and objectives for each topic area were derived from comments made during key interest group interviews, public workshops, steering committee, City staff, and precedent research.

In addition to the guidance provided by this ten year plan, City staff will utilize and regularly update a Strategic Plan along with detailed Design Guidelines to implement the Alternative Transportation and Greenways System Plan.

1. Bicycle & Pedestrian Users

The intent of this Plan is to create a network of bicycle and pedestrian routes for residents of all ages and mobility to bike or walk to their destination rather than taking their car. Choosing to walk or bike to work and run errands will ultimately reduce traffic congestion in the City and improve the health, fitness, and quality of life of Bloomington's residents. However, motivating individuals to walk or bike will require developing safe, convenient, and attractive facilities.

Safety is a primary concern of bicyclists and pedestrians. This includes the safety of the physical design of the alternative transportation and greenways system; safety from other users; and safety from becoming a victim of criminal activity.

The American Association of State Highway and Transportation Official has published an excellent manual for on-street and off-street bicycle and pedestrian facility design. Following these guidelines during the design of the alternative transportation and greenways system should alleviate many of the safety issues.

Conflicts among bicyclists, pedestrians, and motorists can be effectively addressed through educational and awareness efforts including: signage, brochures, special safety days, presentations to school groups, organizations, and businesses, as well as support from the local media. Good signage and clearly marked routes, especially at intersection and mid-street crossings, will minimize conflicts between motorists, pedestrians, and bicyclists.

The Indiana Code recognizes bicycling as a valid form of transportation and as a result bicyclists travelling on the road must adhere to the same rules as motorists and that motorist must share the road with bicyclists. This means stopping at red lights and stop signs, yielding to pedestrians, and using appropriate turn signals.

Bicycle and pedestrian facilities that support a variety of ages, speed, and mobility such as multi-use trails have the greatest user conflicts. Basic etiquette for multi-use trails users may include:

- Stay to the right except to pass,
- Travel at a reasonable speed that is consistent and predictable,
- Look behind and ahead before passing,
- Give a clear warning sign before passing, or stopping, and
- Keep pets on a short leash.

Regular patrol either by law enforcement or trained volunteers may be necessary to promote safety. Busy routes for commuters, park-and-rides, and trailheads may benefit from non-intrusive security or street lighting. Any landscaping adjacent to the bicycle and pedestrian facilities, park-and-rides, and trailheads should be kept pruned to minimize hiding places for criminals.

A well-designed alternative transportation and greenways system will provide pedestrians and bicyclists with a network of bicycle and pedestrian facilities for commuting and recreation that are safe, convenient and attractive.

The following pages include the key issues raised by the public as well as the goals and objectives for the Plan.

Key Issues:
Participants in the key interest group interviews, public workshops, and the steering committee identified traffic congestion, connectivity, and personal safety as key issues for pedestrians and bicyclists.

The following is a list of issues identified.

- People want to be out of their cars but conflicts with vehicular traffic and the lack of linked destinations prevents them from doing so.
- Sprawling development patterns and increased volume and speed of cars decrease desire and ability to safely walk and bike.
- Parents drive children to school because there is a lack of safe sidewalks and bicycle and pedestrian facilities in many neighborhoods.
- Currently, people have to drive to locations that are safe for recreational bicycling.
- Bicycle and pedestrian facilities established for commuting need to be easy to navigate and efficient.
- Separate pedestrian, bicycles and cars where possible.
- Education and enforcement of rules of the road is needed for both motorists and bicyclists.
- Volume and speed of vehicular traffic is a major barrier for cyclists and pedestrians.
- Clearly marked routes, especially at intersections, are needed to lessen conflict for pedestrians, bicyclists, and motorists.

Goal :
Increase opportunities for pedestrians and bicyclists to safely and efficiently commute and recreate throughout the City of Bloomington.

Objectives:

1. Create bicycle and pedestrian facilities that are safe:
   A. Where possible, use sidewalks, sidepaths and multi-use trails to physically separate pedestrians and bicyclists from traffic.
   B. Designated bicycle lanes, signed bike routes, and sidepaths should be designed to safely accommodate bicyclists.
   C. Incorporate signage at key points, especially intersections and mid-street crossings to remind users and motorists of the rules of the road.

2. Create routes that are as direct as possible:
   A. Routes that are more accessible and direct for pedestrians and bicyclists will encourage more people to leave their car at home for short and frequent trips.

3. Clearly mark individual routes and the overall system:
   A. Each route and intersection in the system must be clearly marked with signs and striping. Pedestrians and bicyclists should be able to easily distinguish if they are on a designated bicycle and pedestrian facility.
   B. Develop themes for key thoroughfares such that users can refer to a segment of bicycle and pedestrian facility by name or unique features and clearly identify it from other routes.

4. Conduct regular educational and awareness programs for users:
   A. Provide educational programs and events which lead to greater awareness of the system.
   B. Provide incentives for individuals who commute using alternative transportation and disincentives for motorists.
5. Prepare bicycle and pedestrian facility maps and make them available to the public:
   A. Clearly identify city-wide bicycle and pedestrian routes in addition to trailheads. Trailheads should be coded as to what amenities are available (i.e. public restroom, storage, etc.).
   B. Clearly mark park-and-ride locations and public transit stops.
6. Collect and analyze accident and crime data:
   A. Track accident reports relating to bicyclists or pedestrians versus cars, and bicyclists versus pedestrians. Areas that have repeated accidents will need to be reviewed for redesign or installation of additional safety measures.
   B. Track criminal activity on bicycle and pedestrian facilities. Such statistics should indicate criminal activity along routes will be significantly less than elsewhere in the community. This information will prove valuable if the City is being challenged publicly on safety and security issues.

2. Connectivity

Determining where routes for the alternative transportation and greenways system should be located and which type of facility to implement is dependent on several factors. These factors include:

- Identifying key destinations,
- Determining type of bicycle and pedestrian facility and user needs, and
- Developing creative solutions to overcome existing obstacles such as street width, traffic volume and speed, comfort of user, intersections, turn lanes, and bus stop blisters.

Key destinations are places people want or need to get to. These may include: school, work, shopping, parks, entertainment, and transit stops. The intent of this Plan is to better connect such key destinations with bicycle and pedestrian routes in an effort to lessen the number and frequency of vehicular trips.

The major destinations identified in Bloomington include student housing, Indiana University campus, schools, parks, major employment areas, commercial districts, and transit stops.

The type of bicycle and pedestrian facility implemented will be determined by proximity to key destinations, land ownership, and the needs of the proposed users. Bicyclists and pedestrians have varying levels of confidence and reasons for using the alternative transportation and greenways system. Experienced bicyclists who are comfortable riding with traffic will benefit from on-street bike lanes or signed routes. Whereas users interested in recreational benefits or are less confident interacting with vehicular traffic will enjoy sidepaths and multi-use routes.

End of route facilities, such as showers and lockers, for daily commuters and ample secure parking at key destinations will encourage more individuals to ride and walk instead of taking their car.

Each proposed route of the alternative transportation and greenways system will require careful consideration of the most efficient route to connect key destinations as well as the needs of pedestrians and bicyclists.

The recent collaboration of the Indiana University Campus bus service and Bloomington Transit, which allows students to ride both systems with their student identification, has significantly increased ridership throughout the City. Recently, Bloomington Transit received national recognition as one of 10 Most Improved Transit Systems in North America. Bloomington Transit ridership is currently at 1.37 million riders per year.

Each Bloomington Transit bus is equipped with a bike rack. This system works well for individuals who don't want to fight traffic during their commute but want some flexibility and mobility close to their destination.

The two park-and-ride sites, Bryan Park and Indiana University Assembly Hall, are very popular and more park-and-ride locations will likely be needed as parking becomes more expensive and limited in and around the campus area. Secure and safe bicycle parking should be provided for at key transit stops and park-and-ride locations.

The following pages identify issues raised by the public as well as the goals and objectives developed for this section.

Key Issues:
Much of the discussion on implementing an alternative transportation and greenways system focused on the importance of connecting key destinations as well as the types and locations of bicycle and pedestrian facilities.

The following list includes the most important facility issues identified.

- Locate a hierarchy of routes based on speed and volume of users as well as vehicular traffic.
- Locate routes within City-owned parcels, street rights-of-way and utility easements to the greatest extent possible.
- Provide safe connections to schools, parks, residential, and commercial areas including: Lake Griffy, Cascades Park, downtown, Indiana University Campus, and College Mall.
- Connect hotels, the convention center, and attractions with routes for visitors.
- Promote opportunities to connect arts, culture, and recreation.
- Link City routes with good routes in the county to access Lake Monroe, Hoosier National Forest, and similar destinations.
- Destinations west of SR 37 including retail, residential, schools, recreation, and businesses need to be interconnected and connected to downtown.
- Use alleys, less congested roads, and duplicate roads at Southdowns and College Mall.
- Develop routes in the City for transportation and routes outside Bloomington for recreation.
- Model future park-and-ride locations after the success of Bryan Park.
- Enhance the bicycle and pedestrian facilities with public art.

Goal:
Establish a network of convenient, safe, and well-designed alternative transportation and greenways systems that connect key destinations throughout the City.

Objectives:
1. Establish an Alternative Transportation and Greenways System Coordinator:
   A. Dedicate at least one City staff person within Planning or Public Works to coordinate and facilitate public, private, and nonprofit bicycle and pedestrian projects. Such coordination will ensure successful implementation of the Alternative Transportation and Greenways System Plan.
2. Link key destinations:
   A. Determine and prioritize key destinations for bike, pedestrian, and transit commuters. Good connectivity is essential to the success of this Plan. Land use patterns will dictate how successful linking these destinations will be. Dispersed low-density development is much harder to connect than compact, mixed-use developments.
   B. Determine and prioritize key destinations for recreational paths. Residents are more likely to travel longer distances for recreational purposes. Design such routes for a variety of experiences and accessibility for all ages and mobility levels. Part of the recreational experience should be the route itself, not the end destination.

3. Establish a hierarchy of bicyclist and pedestrian routes:
   A. Design pathways to accommodate the volume and speed of users. For on-road facilities, take into consideration the speed and volume of adjacent vehicular traffic.
   B. Establish a hierarchy of pathways that include local, collector, and arterial routes. This hierarchy should complement the system identified for the roadway network. An example of an arterial route would be an on-road facility such as a bike lane. These routes carry the fastest and most experienced users who are comfortable riding with vehicular traffic. Local and collector routes may be bike lanes on less travelled roads or off-road pathways such as sidepaths and multi-use trails. These routes still provide good connectivity but the speed of the user can be much slower.
4. Establish a land aquisition program for alternative transportation that is equivalent in importance to roadway construction projects.
   A. Desired routes for multi-use trails may fall outside of the City's utility and drainage easements thus restricting important linkages between key destinations. Where possible, the City should purchase desired parcels of land to develop bicycle and pedestrian facilities.
   B. All railroad property and right-of-way shall be a high priority for land acquisition and trail construction.
   C. The City shall adopt policy that will attempt to develop trail systems in cooperation with willing land sellers. In the event that an agreement cannot be reached, the City will exercise its authority of eminent domain, which shall be used as a last resort for the purpose of completing the goals of this Plan.
   D. Land acquisition and trail construction issues will be considered and addressed as a matter of course in connection with all proposals for land development. Relevant City ordinances and regulations will be amended to reflect this policy.
5. Provide secure bike parking:
   A. Establish secure parking areas at key destinations, such as employment centers, schools, transit stops, and park-and-rides.
   B. Provide options for secure, short-term or long-term parking. Ideal parking facilities for bike commuters should be covered, safe, and well-illuminated.
   C. Provide incentives to developers and land owners to incorporate secure bicycle parking facilities into their parking lots and developments.
6. Promote bike racks on public transit vehicles:
   A. Encourage bicyclists to use the racks on the front of City buses. This is an ideal system for commuters who don't want to bike with the street traffic but want the freedom and mobility close to their destination.
   B. Provide educational and public service programs for bicyclists to make them more comfortable using transit bike racks.

7. Encourage businesses to participate and assist with plan implementation
   A. Provide incentives for employers to encourage their staff to bike, walk, or take public transit to work. This may include recognitions like “Commuter of the Month” or cash in lieu of a prepaid parking pass.
   B. Encourage employers to invest in end-of-trip facilities such as a shower, changing or locker room, and a secure place to lock their bikes.

see Key Destinations Map

see Public Transit Route Map

3. Funding

Funding an alternative transportation and greenways system can be an expensive and time consuming endeavor. Land acquisition, design, construction and maintenance of the bicycle and pedestrian routes are some of the most significant costs associated with bicycle and pedestrian facilities. This Plan has identified numerous routes throughout the City. Once the routes are built, these routes will successfully connect key destinations and allow for the safe and efficient movement of bicycle and pedestrians throughout the City.

The City Council has allocated $500,000 annually to fund the development of the Alternative Transportation and Greenways System Plan. However, in order to get people out of their cars and using bicycle and pedestrian routes for commuting and recreation, additional funds may be needed to build as many connections as possible in the shortest amount of time.

Creative solutions to funding can be found with collaboration and cooperation of public funds as well as private donations.

Some potential funding sources include:

- Federal programs for transportation, community development and conservation,
- State programs for recreation, transportation, conservation and water quality,
- Local taxes, impact fees, bond referendums, capital improvement programs, and
- Private participation through land trusts, foundations, local businesses, generous individuals, and volunteers.

Some more creative ways to fund development of segments of the alternative transportation and greenways system may include:

- Money from equipment rental for bicycle and pedestrian facility users (roller blades, bicycles, strollers, etc.),
- Sell sponsorship for popular, well-travelled stretches of the bicycle and pedestrian facility, and
- Use the network of routes for a competitive recreational event and charge an entrance fee.

Creative thinking and cooperation among private and public interests will help to successfully build the alternative transportation and greenways system in a shorter time period.

The following pages identify issues raised by the public as well as the goals and objectives developed for this section.

Key Issues:
Discussion within the key interest groups, public workshops, and the steering committee regarding funding for alternative transportation and greenways focused on grant opportunities as well as cooperative efforts among City departments and organizations.

The following list summarizes the issues identified.

- Explore all available federal, state, local, public, private, and nonprofit funding options.
- Combine smaller grants and funds from various City departments and local organizations for bicycle and pedestrian projects.
- Seek donations from private individuals and organizations.
- Incorporate bicycle and pedestrian projects in all applicable INDOT road project proposals.
- Consider a 1/2% property tax increase to be used for land acquisition, construction, and maintenance of bike lanes and multi-use trails.
- Research available environmental funds especially for routes along waterways or through vacant or underutilized properties.
- Incorporate funds to pay for public art along routes or at trailheads in funding requests.

Goal:
Fiscally plan for the development and maintenance of an alternative transportation and greenways system and place its funding priority equal to that of roadways.

Objectives:
1. Identify and track funding opportunities:
   A. Maintain a database of local, state and federal funding opportunities. This would include public, private, and nonprofit donors. It may be advisable to dedicate a portion of the Alternative Transportation and Greenways Coordinator's time to conduct research or hire a professional grant writer to conduct this research, due to the time and effort involved.
   B. Consider a user fee either in the form of a donation drop box at a trailhead or more formally through a modest property, sales, or hotel tax increase.
   C. Explore funding opportunities that are indirectly related. For example, land purchased or placed in an easement to control flooding could provide linkage opportunities for the alternative transportation and greenways system.
2. Maintain a constant funding source to aid with implementation:
   A. Ensure the City Council and department budgets include annual contributions to develop bicycle and pedestrian routes throughout the community.
3. Coordinate local projects:
   A. Coordinate funds from smaller projects to develop a larger, and better, portion of the system. This may require consolidating funds from multiple City departments and possibly the county.

   B. Coordinate various City departments Capital Improvement Projects (CIP) to include alternative transportation and greenways as a priority.
   C. Explore partnerships with local nonprofits or private corporations. These groups may have projects that directly relate to the City's plans. Such groups may have access to funds not available to public organizations.

4. Incorporate bicycle and pedestrian facilities in all applicable roadway projects:
   A. Coordinate future roadway construction and improvement projects with priorities of the alternative transportation and greenways system.
   B. Establish a system to measure the volume of bicyclist and pedestrian use on a regular basis. Incorporate these numbers into the calculations used to determine funds needed for road improvement and construction projects.

5. Concentrate funds to maximize results:
   A. Identify segments of the community that could benefit the most from an alternative transportation and greenways system. This could include a residential area with school-aged children with no means to safely walk to the neighborhood school.
   B. Coordinate funds and participants to develop a focused number of key linkages of the alternative transportation and greenways system as opposed to creating several small, insignificant and unconnected routes.

4. Maintenance

A well maintained alternative transportation and greenways system will provide commuters and recreational users the confidence they need to leave their cars at home and safely use the bicycle and pedestrian routes on a regular basis. Long-term maintenance issues such as drainage and sight distances should be addressed during the design of the alternative transportation and greenways system.

Regular maintenance may include:

- Inspecting and replacing bicycle and pedestrian facility and roadway signs,
- Repairing cracks and holes in bicycle and pedestrian facility surface,
- Sweeping routes to remove loose gravel, sand, garbage, leaves, etc.
- Removing dead or dangerous tree limbs and regular pruning of vegetation along the bicycle and pedestrian facility,
- Removing snow and ice, and
- Documenting regular inspections to limit risk and liability.

Ownership and maintenance of the alternative transportation and greenways system will be the responsibility of the City of Bloomington. Maintenance of bicycle and pedestrian facilities within the road right-of-way including bike lanes, sidepaths, connector paths, and sidewalks will be the responsibility of the Public Works Department whereas the off-road multi-use paths will be the responsibility of the Parks Department.

The City may wish to explore a cooperative maintenance plan with land owners adjacent to the bicycle and pedestrian facility to monitor and report maintenance problems. Planning and development of the alternative transportation and greenways system will be a joint effort of Planning, Parks and Public Works.

The following pages identify issues raised by the public as well as the goals and objectives developed for this section.

Key Issues:
Participants in the key interest group interviews, public workshops, and the steering committee agreed that regular maintenance of bicycle and pedestrian facilities is critical for daily commuting and recreational use.

The following list highlights these issues.

- Manage bicycle and pedestrian facilities as "dawn to dusk" operations similar to parks except in urban areas where lighting may be appropriate for the safety of daily commuters.
- Police patrol on bikes only in downtown area and at Indiana University.
- Remove snow, sand, and other debris on heavily travelled sidepaths and bike lanes.
- Develop better paint/stripping on bicycle and pedestrian facilities and crosswalks.
- Encouraging neighborhoods, businesses, service organizations, etc., to "adopt-a-trail" and maintain sections of the bicycle and pedestrian facility.

Goal:
Maintain and upgrade the alternative transportation and greenways system on a regular basis so it is safe and accessible for bicycle and pedestrians users throughout the year.

Objectives:
1. Maintain condition of pathways:
   A. Ensure that pathways are regularly cleared of debris and obstacles that may restrict mobility of users. This may include snow, sand, garbage, leaves, and standing water. Regular maintenance of the alternative transportation and greenways system encourages commuters to use the system on a daily basis.
   B. Maintain the surfaces of pathways for ease of the handicapped, elderly, baby strollers, and children.
   C. Inspect surfaces, curbs, ramps, barriers, signage, and warning lights regularly to ensure the safety of users.
   D. Consider a joint maintenance program with adjacent landowners similar to that of the existing sidewalk program.

2. Maintain visibility of routes:
   A. Ensure that routes are clearly marked with durable paint and good signage. Routes should be visible to bicyclists, pedestrians, and motorists. Good visibility and increased awareness reduces conflicts between the various users and motorists particularly at intersections and crosswalks.
   B. Maintain good site clearance along routes. Bicyclists, pedestrians, and motorists need to be visible at critical points of the system such as intersections, grade changes, and blind corners.

3. Upgrade segments of bicycle and pedestrian routes:
   A. Improve segments of routes that have significantly increased in demand. Overcrowded bicycle and pedestrian facilities, especially multi-use trails, can become dangerous and less enjoyable for users.
4. Maintain records for tracking and budgeting maintenance needs:
   A. Track maintenance costs per mile for each type of bicycle and pedestrian facility to determine differing annual maintenance expenditures between sidepaths versus on-street bike lanes.
   B. Track the maintenance cost of amenities or special features, such as trailhead parking lots and restrooms. Special features may also include bridges or vegetation along the bicycle and pedestrian facility.

5. Environment

Multi-use trails can successfully be incorporated into greenways without destroying the environmental integrity of a natural corridor. In many cases, increased visibility of greenways by bicyclists and pedestrians can promote preservation, management, and a greater appreciation for these environments.

However, in urban areas, with limited green space, trail development can have a significant impact on wildlife habitat. A typical multi-use trail may have only ten feet of hard surface but an additional ten feet on either side may be groomed or cleared for the safety and visibility of users. Construction of the bicycle and pedestrian facility can influence existing drainage, soil composition, and plant material. Individuals who wander off the trail with their pets have even a greater impact on natural areas.

With this in mind, natural areas and waterways should be buffered from the trail and trail users. Providing controlled access vistas or look out points should discourage additional traffic through natural areas. Interpretive signage will promote education, awareness, and stewardship among trail users.

The following pages identify issues raised by the public and the goals and objectives developed for this section.

Key Issues:
The participants in the key interest group interviews, public workshops, and the steering committee identified several environmental issues that should be addressed in the Alternative Transportation and Greenways System Plan. They include:

- Reduce traffic congestion, air, and noise pollution.
- Reduce parking lot requirements to allow smaller parking lots and less impervious surface.
- Use greenways to protect open space, wildlife habitat, and mitigating flood problems along rivers and streams.
- Restore riparian corridors along Clear Creek and proposed Jackson Creek trails.

Goal:
Promote and enhance the integrity of the natural environment through the sensitive development of trails and greenway corridors.

Objectives:

1. Establish greenways along major streams and tributaries:
   A. Maintain the natural filtration and storage capacity of riverine environments. Streamside forests and natural wetlands act as filters, trapping harmful, nonpoint source pollutants before they reach the waterway.
   B. Remove invasive and noxious plants and replace with native trees, shrubs, and herbaceous species. Native species can tolerate local conditions and, as a result, have a better survival rate.
   C. Maintain and enhance riparian corridors. Streamside forests provide a critical interface between upland development and the sensitive riverine environment. Wildlife depends on these green corridors for food, water, shelter, and breeding.
2. Require environmentally sensitive design techniques and materials for trail construction and placement:
   A. Reduce compaction of soils in natural areas with small machines or hand operated equipment.
   B. Require pervious paving materials to be used on trails in natural areas. Finely crushed gravel or pervious pavement will establish a hard surface for mobility while allowing some filtration into the soil.
   C. Reduce the standard size of trails in natural areas to minimize the area disturbed for trail development.
   D. Design the trail system to complement the existing terrain and vegetation.
3. Provide opportunities for users to explore natural areas off the trail:
   A. Establish designated areas where users can venture off the hard-surfaced trail and enjoy the natural setting of hills, rocks, trees, and water.
4. Design informational signage on trails:
   A. Take advantage of opportunities to educate users with attractive signage and theme trails. This should emphasize the importance of streamside forests for wildlife habitat, water and air quality enhancement and protection.
5. Protect greenways from overuse, misuse, and abuse:
   A. Maintain data on the condition and number of users on multi-use trails. Overuse, misuse, and abuse of the bicycle and pedestrian facility and surrounding areas will degrade the quality of the natural resource.
6. Encourage neighboring landowners to participate in restoration practices.
   A. The Community Wildlife Habitat Program/Wild City Initiative is a program sponsored by the National Wildlife Federation. The purpose of the program is to encourage landowners to allow their property to return to a more natural state. Ultimately resulting in less use of herbicides, pesticides, powered lawnmowers while creating better habitats for wildlife in urban settings. Participating landowners could significantly enhance the greenways efforts of the city with their participation.

6. Economic Development

Alternative transportation and greenways systems provide economic development opportunities for local businesses. Businesses that cater specifically to the needs of pedestrians and bicyclists such as sales, repair, specialty clothing and outfitting will certainly benefit from a well-designed alternative transportation and greenways system. Other non-related businesses like restaurants, coffee shops, shopping, entertainment, and convenience stores will also benefit from the increased bicycle and pedestrian traffic.

As with the success of any business, location is the key. Businesses should take advantage of their proximity to the bicycle and pedestrian facilities. If they are not located directly on a route, attractive signage should be used to draw pedestrians and bicyclists off the designated facility toward their business.

Employers and business owners in proximity to the alternative transportation and greenways system could also make themselves more attractive to prospective employees by extending bicycle and pedestrian facilities to their building. Large corporations looking to relocate often factor in proximity and abundance of open space and recreational opportunities into their decision-making process.

An alternative transportation and greenways system can enhance the City's overall quality of life and its ability to attract and retain residents, businesses, and industry.

The following pages identify issues raised by the public and the goals and objectives developed for this section.

Key Issues:
Participants of the key interest group interviews, public workshops, and the steering committee agreed that businesses linked by the alternative transportation and greenways system, especially those catering specifically to bicycle and pedestrian facility users, could significantly benefit from an alternative transportation and greenways system.

The following key issues were identified by participants.

- Promote commuter and recreational-related businesses in proximity to bicycle and pedestrian facilities.
- Provide safe access for bicyclists and pedestrians to businesses along designated routes.
- Use appropriate signage to advertise businesses in proximity to the bicycle and pedestrian facilities.
- Encourage commercial and employment centers to extend bicycle and pedestrian routes to their facility.

Goal:
Promote the alternative transportation and greenways system as a distinguishing feature of Bloomington to attract and retain quality residents, businesses, and industry.

Objectives:

1. Enhance the local economy by reducing commuter costs and increasing property values:
   A. Strengthen the development of commuter and recreational related businesses in proximity to bicycle and pedestrian routes.

2. Market the system to retain and attract businesses:
   A. Ensure connections are made to existing commercial and business centers. Routes for commuting and recreation have a positive effect on the local quality of life and liveability of the community.
   B. Consider linkages to proposed commercial and business areas. Alternative transportation and greenways routes are an effective marketing tool to attract new businesses and employees.

7. Tourism

A convenient, safe, and well-designed network of bicycle and pedestrian facilities can boost the local tourism industry.

Bloomington has a rich bicycling history. However, bicycle tourists sometimes have difficulty finding their way around the City safely. An alternative transportation and greenways system will greatly benefit visitors interested in exploring Bloomington by foot, roller blade, or on a bike. Events such as the Hilly Hundred and Little 500 will also benefit from improved routes in Bloomington and better access to county roads.

Safe and convenient connections to key tourist attractions such as hotels, convention center, Indiana University, restaurants and shopping as well as rental and safe storage facilities will boost bicycle and pedestrian tourism opportunities in Bloomington.

The following pages identify issues raised by the public and the goals and objectives developed for this section.

Key Issues:
Discussions among participants of the key interest group interviews, public workshops, and the steering committee highlighted the reality that Bloomington has a reputation as a bicycle friendly community but there are few designated routes that safely link attractions throughout the community, especially for tourists.

The following list identifies tourism issues.

- Market the proposed loop around the City as a potential tourism attraction.
- Develop themes for each route which tie into Bloomington's unique history, geology, and notable landmarks. For example, Monroe County is famous for the abundance of limestone and quarries.
- Bicycle and pedestrian facilities are excellent for targeting the eco-tourism market.
- The image of Bloomington as a bicycle-friendly community and the reality of that perception are not the same.
- Key destinations to link for tourism include: hotels, restaurants, Indiana University, shopping, entertainment, and the convention center.

Goal:
Add paths to the commuter system to cater to distance cyclists, family vacations, adventurists, naturalists, and other tourism-focused groups.

Objectives:

1. Continue to market Bloomington as a bike friendly community to attract visitors:
   A. Build on the rich bicycle history already established in Bloomington. Major cycling events such as the Hilly Hundred and Little 500 are major income generators for the City.
   B. Provide connections to safe county roads in Monroe County for distance cyclists.
   C. Identify well-marked routes specifically for tourists.

2. Establish themes along each route:
   A. Market the unique local history, geology, and notable landmarks. Themes are an effective way to create interest and opportunity to educate visitor and residents using the alternative transportation and greenways system.

3. Use bicycle and pedestrian facilities to link and support tourist destinations:
   A. Connect key tourist destinations including hotels, the convention center, restaurants, entertainment, and shopping areas.

Summary

The Alternative Transportation and Greenways System Plan provides the City of Bloomington with direction for developing a network of bicycle and pedestrian facilities throughout the City. The intent is for this Plan to be used for both long-term and daily decision-making. This Plan is complemented by a Strategic Plan and Design Guidelines.

The Plan identifies several benefits of developing an alternative transportation and greenways system including:

- Reduce traffic congestion,
- Provide accessibility for non-drivers,
- Enhance the community's overall quality of life,
- Improve the community's health and wellness,
- Provide opportunities for economic development and tourism, and
- Protect the natural environment.

The City of Bloomington is ready for an alternative transportation and greenways system. Vehicular traffic has been increasing at a much higher percentage than the population growth rate causing significant congestion and parking problems throughout the City. To it's benefit, Bloomington is a vibrant, highly educated college town with a strong environmental awareness and for the most part, a compact urban development pattern.

The Alternative Transportation and Greenways System Plan identifies long-range goals and objectives that are intentionally vague in nature to allow for flexibility and adaptability as needed over the next ten years.

These goals and objectives are:

- Increase opportunities for bicyclists and pedestrians to safely and efficiently commute and recreate throughout the City.
- Establish convenient, safe, and well-designed alternative transportation and greenways system that connect key destinations throughout the City.
- Develop a fiscal plan to construct and maintain bicycle and pedestrian facilities.
- Maintain and upgrade the alternative transportation and greenways system on a regular basis so it is safe and accessible for bicyclists and pedestrians throughout the year.
- Promote and enhance the integrity of the natural environment throughout the City and fringe area.
- Promote the alternative transportation and greenways system as a distinguishing feature of Bloomington to attract and retain quality businesses and residential development.
- Add bicycle and pedestrian routes to the commuter system which cater to distance bicyclists, family vacationers, adventurists, naturalists, and other tourism-focused groups.

The success of this Plan will be measured annually based on the completion of projects identified in the Strategic Plan.

The Alternative Transportation and Greenways System Plan cannot be viewed as a static, set in stone series of ideas or projects. For this Plan to be effective it must be reviewed, evaluated, and when necessary updated to reflect changing trends, outlooks, and thinking in the community. In doing so, Bloomington can collectively reduce resistance to alternative transportation and develop a network of bicycle and pedestrian facilities that take advantage of opportunities and avoid potential pitfalls.

Appendix

Public Participation Overview

Public participation is essential to the continued successful development and implementation of the Alternative Transportation and Greenways System Plan for the City of Bloomington.

Because public input was so vital in the preparation of this Plan, a steering committee of sixteen people from diverse backgrounds was formed. The group was asked to serve as a sounding board on behalf of the community throughout the planning process. In addition to steering committee meetings, two public workshops and ten key interest group interviews were held to gather information and ideas from the community.

Key Interest Group Interviews

The public participation process for the alternative transportation and greenways system planning process began with key interest group interviews.

Ten different key interest groups were identified by city staff and planning consultant including:

- Bicycle & Pedestrian Safety Commission,
- Parks Board,
- IU Bicycle & Pedestrian Safety Committee,
- Environmental Commission,
- Council for Community Accessibility,
- HAND (Housing & Neighborhood Development),
- Indiana University,
- Council of Neighborhood Associations
- Visit Bloomington, and
- Percent for the Arts.

The interviews were conducted on Monday February 5, 2001 and Tuesday February 6, 2001. The topics covered during the interviews included bicycle and pedestrian issues, implementation considerations, funding opportunities, long-term maintenance and management, economic development and tourism and environmental issues.

The discussion on bicycle and pedestrian issues emphasized the need for an effective educational program for pedestrians, bicyclists, and motorists. Personal safety of trail users from other trail users, vehicular traffic, and criminal activity were also discussed during the key group interviews.

Implementation issues included the importance of a safe, convenient, and well-designed network of pedestrian and bicyclist trails that connect key destinations throughout the community. Key destinations identified included: employment, commercial, and entertainment districts, schools, transit stops, and recreational areas.

Discussions related to funding an alternative transportation and greenways system during the key focus group interviews acknowledged the tremendous expense associated with creating a network of bicycle and pedestrian facilities. As a result, the need for creative and innovative funding solutions possibly through coordination and partnerships with existing and proposed public, private, and nonprofit trail development efforts were suggested.

Long-term maintenance and management issues were raised and thoroughly discussed in each key group interview. Clearly the network of bicycle and pedestrian facilities will only be successful and used on a daily basis if users can be assured that the trails are well maintained and managed.

Economic development and tourism issues included increased opportunities for businesses, especially those that cater to recreational trail users and daily commuters. Several participants of the key group interviews noted the rich history, geology, and land use of many parts of the city that could be emphasized through themes on neighboring trails. Bloomington currently benefits from the influx of individuals participating in the Hilly Hundred and Little 500 bicycle events. And the emerging eco-tourism market creates an opportunity for additional tourism revenue for the City of Bloomington.

Discussion of environmental benefits of an alternative transportation and greenways system included mitigating traffic congestion and demand for parking. Greenways along waterways also provide an opportunity to protect the streamside forests and enhance the water quality.

Appendix

Public Workshop #1

The first public workshop was held on Tuesday February 20, 2001 from 5:30-7:30 pm in the Council Chambers of the Showers Center City Hall. Approximately 20 residents participated in the meeting.

The purpose and planning process of the Alternative Transportation and Greenways System Plan were discussed. In an effort to better understand what some of the initial needs and concerns regarding a network of pedestrian and bicycle trails throughout the city were, participants answered a survey.

The following summarizes the survey responses.

- Pedestrian and bicycle network should accommodate needs of both commuting and recreational users.
- Network must have good connectivity of key destinations including neighborhoods to schools, student housing to campus, and neighborhoods to natural areas.
- Preference for multi-use trails, sidepaths, and bike lanes.

Following a good question and answer session, participants broke into four groups and identified key destinations on large maps and first, second, and third year priorities for the Plan to consider.

Appendix

Public Workshop #2

The second public workshop was held on Thursday May 31, 2001 in the Council Chambers of the Shower Center City Hall from 5:30-7:30 pm. Approximately 100 people attended the workshop.

A presentation at the second workshop highlighted:

- Purpose for developing the plan,
- Benefits of alternative transportation and greenways,
- Overview of the plan including bicycle and pedestrian issues, funding and maintenance concerns, economic development and tourism opportunities, and environmental benefits,
- Evolution of the plan based on key destinations, analysis of existing conditions, and public participation,
- Overview of conceptual plan for the city, and
- Suggested alternative transportation and greenways system routes.

Following a good question and answer session, participants broke into five smaller groups and commented on large maps with the proposed routes for the alternative transportation and greenways system.

Participants at the second workshop reinforced the routes proposed in this Plan as well as suggesting some alternative north-south, east-west, and key connectors throughout the City. Additional routes that lead into the county were suggested as well as using Hunter Avenue and University Avenue for east-west access as opposed to 1st Street and 2nd Street.

The information gathered from the public has been invaluable to the development of the proposed routes and will continue to be important as the Plan is implemented.

Appendix

see Public Workshop #1 Results Map

Appendix

see Public Workshop #2 Results Map

Appendix

Funding Resources

The following is a partial list of possible funding opportunities for the City of Bloomington to further explore.

Local Funding

1. Mayor & City Council. Provide political support. Direct funding and local matching funds for state and federal grants. Adopt regulatory measures for setbacks, open space requirements, and trail easements.

2. City Departments - Parks & Recreation, Public Works, Traffic, Utilities, Planning, Engineering, and Transit. Coordination of planning, land acquisition, implementation, and maintenance efforts among individual departments will lessen the financial burden of trail development on one department. Include alternative transportation efforts in each department Capital Improvement Program.

3. Tourism Agency. Provide funds or services for promotion and publishing information.

4. School District. Funding for land for use as outdoor classroom and greenway.

5. Special Interest Groups. Collaborate funding with organizations with compatible interests.

State Funding

1. Indiana Department of Natural Resources. Funding available from Division of Outdoor Recreation, Recreational Trails Program. This is a matching grant program that supports trail related acquisition, development, maintenance, restoration, and education projects.

2. Indiana Department of Transportation. Funds for bicycle and pedestrian trails are available through the Transportation Equity Act (TEA-21) including "Recreational Trails Program", "Bicycle Transportation and Pedestrian Walkways", and "Scenic Byways Program". Revenue generated from the sale of environmental license plates fund trail development.

3. Indiana Lottery. Proceeds from ticket sales may provide funding for parks, recreation, and conservation.

Federal Funding

1. Department of the Interior
   A. National Park Service - funds available for land acquisition and trail development through the "Land & Water Conservation Fund" and "Rivers, Trails and Conservation Assistance Program";
   B. U.S. Fish & Wildlife - funds available for wildlife habitat conservation along greenways.
   C. Bureau of Land Management - funds available for forest restoration, wildlife habitat studies, riparian habit restoration and other programs benefitting public land.

2. Department of Transportation. Funds for bicycle and pedestrian trails are available through the Transportation Equity Act (TEA-21) including "Recreational Trails Program", "Bicycle Transportation and Pedestrian Walkways", and "Scenic Byways Program".

3. Environmental Protection Agency. Funding available for planning, public information, and wetland projects related to greenways.

4. Department of Defense.
   A. U.S. Army Corps of Engineers - funds available for recreation and conservation projects in conjunction with flood control improvements

5. Department of Housing and Urban Development.
   A. Community Development Block Grants - funds available to projects that benefit low and moderate-income people.

6. Department of Commerce.
   A. Economic Development Administration - funds available to projects that promote long-term economic development and private sector job creation especially in areas in severe economic distress.
   B. Small Business Administration - funds available for tree planting programs.

7. Federal Emergency Management Agency. Funds available through local flood insurance programs.

8. Department of Energy. Funds available to assist communities cleanup contaminated sites.

9. National Endowment for the Arts and Humanities. Funds available for including art along trails and greenways.

Grant Programs

1. American Greenways Kodak Awards Program. Grants of $500 to $2500 available through The Conservation Fund to local greenways projects including planning, design, or development. Contact American Greenways Program at The Conservation Fund, 1800 North Kent Street, Suite 1120, Arlington, VA 22209

2. Recreational Equipment Incorporated (REI). Seed grants of $200 to $2000 available to state and local conservation groups for river protection projects. Contact National Rivers Coalition, American Rivers, Inc., 801 Pennsylvania Ave,. SE, Washington, DC 2003.

3. Fish America Foundation. Grants approximately $10,000 to projects that conserve and enhance fish habitats. Contact Fish America Foundation, 1033 N. Fairfax St., Suite 200, Alexandria, VA 22314

4. The Global Relief Heritage Forest Program, American Forestry Association. Grants available (unspecified amount) for tree planting on public lands. Contact American Forestry Association, P.O. Box 2000, Washington, DC 20013

5. The Design Arts Program of the National Endowment for the Arts. Grants available (unspecified amount) to promote excellence in urban design, historic preservation, planning, architecture, and landscape architecture. Contact National Endowment for the Arts, Room 625, Nancy Hanks Center, 1100 Pennsylvania Ave., NW, Washington, DC 20506

Foundations

National, regional and local foundations may be able to fund trail development. The national Foundation Center (www.fdncenter.org) maintains a database of foundations.

Corporate Sponsorship

Corporate donations have been used to build boardwalks, interpretive signage, trail furniture, and provide funds for annual awards programs.

Appendix

Organizations

The following is a partial listing of alternative transportation and greenways organizations that may provide valuable policy, planning, design, and technical information to the City of Bloomington.

Alternative Transportation

1. American Association of State Highway and Transportation Officials (AASHTO). A national organization representing highway transportation departments. Published "Guide for the Development of Bicycle Facilities" in 1999. Contact at AASHTO, 444 North Capital St., NW, Washington, DC 20001 or *www.aashto.org*

2. National Bicycle Greenway. A national organization dedicated to creating and maintaining a coast-to-coast network of multi-use transportation and recreational bicycle trails. Public education information available. Contact *www.bikeroute.com*

3. Association of Pedestrian and Bicycle Professionals. A national organization dedicated to promoting better conditions for bicycling and walking. Contact *www.apbp.org*

4. National Center for Bicycling & Walking. A national organization promoting the increased safe use of bicycles and walking in transportation planning. Contact National Center for Bicycling & Walking, 1506 21st St., NW, Suite 200, Washington, DC 20036 or *www.bikewalk.org*

5. League of American Bicyclists. A national organization devoted to increased bicycle use for commuting and recreation. Contact League of American Bicyclists, 1612 K St., NW, Suite 401, Washington, DC 20006 or *www.bikeleague.org*

6. Surface Transportation Policy Project. A national organization lobbying for alternative transportation and instrumental in passage of ISTEA. Contact Surface Transportation Policy Project, 1100 17th St., NW, 10th Floor, Washington, DC 20036 or *www.transact.org*

7. Transportation Access Project. A national organization dedicated to integrating alternative transportation into communities. Contact Transportation Access Project, 503 W. 4th Ave., Olympia, WA 98501.

8. Pedestrian & Bicycle Information Center. A national organization dedicated to providing sound policy, design, and research information regarding alternative transportation. Contact *www.bicyclinginfo.org*

Greenways

1. The American Greenways Program. A national organization dedicated to establishing a network of public and private open space corridors. Information and technical assistance is available on all aspects of greenways planning and development. Contract The Conservation Fund, 1800 N. Kent St., Suite 1120, Arlington, VA 22209 or *www.conservationfund.org*

2. American Farmland Trust. A national organization charged with protecting agricultural land. Technical information is available regarding land preservation strategies. Contact American Farmland Trust, 1920 N. St., NW, Suite 400, Washington DC 20036 or *www.farmland.org*

3. American Hiking Society. A national organization dedicated to protecting the interests of hikers and preserving footpaths and the natural environment. Information about volunteer recruitment, trail building and maintenance is available. Contact The American Hiking Society, 1422 Fenwich Lane, Silver Spring, MD, 20910 or *www.americanhiking.org*

4. American Rivers. A national organization leading the charge of preserving the nation's outstanding rivers and their landscape. Contact American Rivers, 1025 Vermont Avenue, Suite #720, Washington, DC 20005 or *www.amrivers.org*

5. Land Trust Alliance. A national organization of land trusts. Expertise in establishing land trusts is available. Contact Land Trust Alliance, 1319 F St., NW, Suite 501, Washington DC 20004 or *www.lta.org*

6. National Wildlife Federation. A national organization dedicated to the protection of wildlife, wild places, and the environment. Sponsors a program call The Community Wildlife Habitat Program/Wild City Initiative. *www.nwf.org*

7. Rails-to-Trails Conservancy. A national organization dedicated to assist local governments and nonprofits convert abandoned railroad right-of-ways into public recreational trails. Contact Rails-to-Trails Conservancy, 1100 17th St., NW, 10th Floor, Washington, DC 20036 or *www.railstotrails.org*

8. Scenic America. A national organization devoted to preserving American's scenic beauty. Information and technical assistance is available to assist identifying, designating, and protecting scenic roads in urban and rural settings. Contact Scenic America, 801 Pennsylvania Ave., SE, Suite 300, Washington, DC 20003 or *www.scenic.org*

9. Trust for Public Land. A national organization formed to help public agencies acquire land of significant recreation, cultural, and ecological value. Contact Trust for Public Land, 116 New Montgomery St., 3rd Floor, San Francisco, CA 94105 or *www.tpl.org*

10. Trails and Greenways Clearinghouse. A national organization dedicated to promoting greenway development. Technical assistance and information available. Contact Trails and Greenways Clearinghouse, 1100 17th St., NW, 10th Floor, Washington, DC 20036 or *www.trailsandgreenways.org*

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Strategic Plan

Alternative Transportation & Greenways System Plan

Ratio Architects, Inc.
107 S. Pennsylvania St.
Suite 100.
Indianapolis, IN 46204
(317) 633-4040

Preface

Preface

Strategic Plan

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Introduction

The intent of the Alternative Transportation and Greenways System Plan is to create a network of bicycle and pedestrian facilities for residents of all ages and mobility to walk or bike to their destinations rather than taking their car. Choosing to walk or bike will ultimately reduce traffic congestion in the City and improve the health, fitness, and quality of life of Bloomington's residents. However, motivating individuals to walk or bike will require developing safe, convenient, and attractive facilities.

The information contained in this Strategic Plan moves the City of Bloomington that much closer to developing a network of safe, convenient, and attractive bicycle and pedestrian facilities. This Strategic Plan establishes the conceptual plan for the Alternative Transportation and Greenways System, identifies specific bicycle and pedestrian facilities throughout the City, and sets priorities for implementation.

Although this Plan contains key projects through the year 2010, it should be reviewed on an annual basis to address changes in funding, user needs, and priorities.

Preface

Conceptual Plan

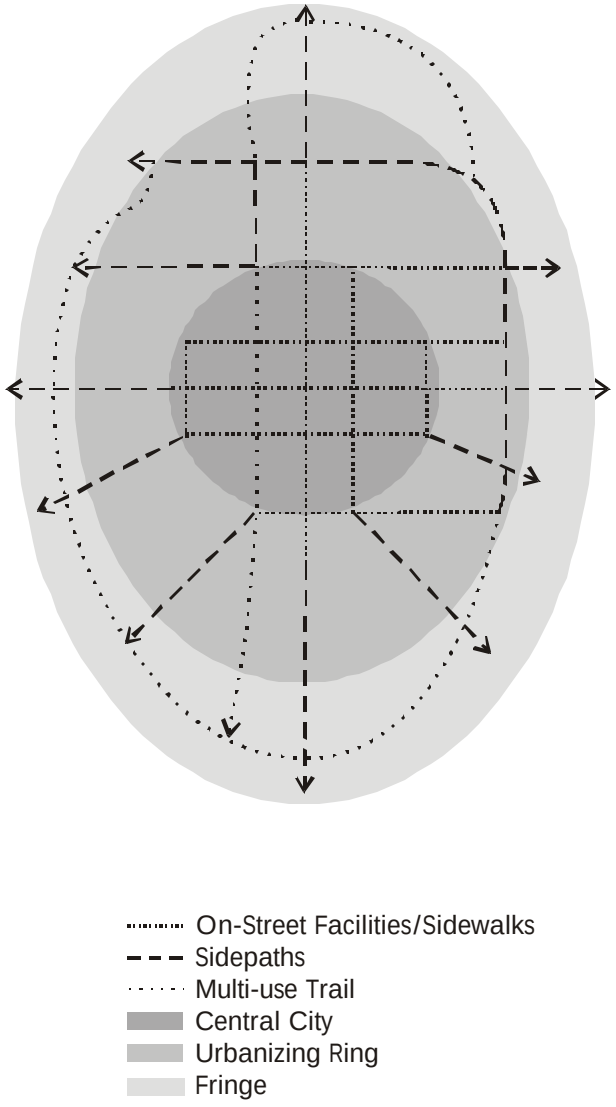
The conceptual plan is based on the three distinct character areas in the City of Bloomington. These include:

1. Central City - downtown, historic neighborhoods, and adjacent, densely urbanized areas,
2. Urbanizing Ring - subdivisions, commercial nodes, and industrial areas outside of the Central City, and
3. Fringe - undeveloped areas, farmland, natural, and transitional areas.

There are several different types of bicycle and pedestrian facilities that have been successfully implemented throughout the nation. The primary types of bicycle and pedestrian facilities discussed in this Plan include:

1. Signed Bike Route - A street that is safe for use by both vehicles and bicycles without a designated bike facility. These routes are identified with appropriate signage,
2. Bike Lanes - A portion of the road that has been designated and designed for the exclusive use of bicycles with distinct signage and pavement markings,
3. Sidepath - A hard-surface path physically separated from the road with a grass or tree plot within the road right-of-way for use of two-way bicyclists, pedestrians and other non-motorized users,
4. Sidewalk - A hard-surface path within the street right-of-way that is designated for the exclusive use of pedestrian traffic, and
5. Multi-use Trail - A hard-surface, off-road path for use by bike, foot, and other non-motorized traffic typically not within the road right-of-way.

This conceptual plan and graphic illustration is intended to be the foundation for the Strategic Plan.



The conceptual plan acknowledges that a successful city-wide alternative transportation and greenways system does not rely on any one type of facility, but is a system of different types of facilities with seamless transitions. This Plan conceptually transcends all areas in the City with the most appropriate and feasible types of bicycle and pedestrian facilities.

Central City

On-street facilities such as bike lanes, signed bike routes, connector paths and sidewalks are most appropriate in the built up areas of the Central City. In general, on-street bike lanes and signed bike routes should be accommodated on existing streets with minimal disturbances to the function of the street and neighboring land uses. In extreme cases it may be necessary to restrict on-street parking to one side or all together to successfully accommodate bike lanes.

Urbanizing Ring

The area outside of the central City, the urbanizing ring, has opportunities for sidepaths, sidewalks, and multi-use trails where space exists. Sidepaths should be considered on busy streets with large right-of-ways so there is sufficient space to separate vehicular, bicycle, and pedestrian traffic.

Fringe

The fringe or less developed/low density areas are better suited for multi-use and unimproved trails. Multi-use trails will most likely follow utility easements, waterways, or other public non-vehicular right-of-way.

Four alternative types of bicycle and pedestrian facilities, although not shown on the conceptual plan, will be considered for future use, where appropriate.

These include:

1. Unimproved Trail - A less intrusive path utilizing pervious materials such as crushed limestone, bark mulch, or exposed soil surface. Unimproved trails may restrict all types of users but may be the best solution for areas considered environmentally sensitive,
2. Bicycle Boulevards - A roadway converted to a bicycle-only or bicycle-dominated throughway,
3. Alley Conversions - An improved alley easement utilized for bicycle and pedestrian traffic, and
4. Connector Path - A hard-surface linkage or shortcut between key destinations that is not accessible by automobiles.

Existing Bicycle & Pedestrian Facilities

The City of Bloomington has made a good effort to incorporate bicycle and pedestrian facilities into new and existing infrastructure improvements. The beginnings of a strong network of east-west and north-south linkages is evident.

Designated bike lanes on College, Walnut, Washington and Lincoln are well used however missing segments, lack of signage, and conflicts at intersections hinder the overall success of the existing network. Signed bike routes thorughout the City identify preferred routes for bicyclists and successfully link some neighborhoods and key destinations.

A limited number of sidepaths have been successfully built within the right-of-way of Clarizz Boulevard, Landmark Avenue, and a short stretch of Bloomfield Road. Unfortunately these sidepaths dead end at busy streets without providing safe connections for bicyclists.

Several well-used multi-use trails have been built throughout the City. The most recent and very popular Clear Creek Trail will eventually connect Tapp Road to the Victor Oolitic Trail at Church Lane. Both the Victor Oolitic Trail and Clear Creek Trail currently dead end at roads which experience high volumes and speeds of vehicular traffic throughout the day. A short stretch of multi-use trail on the northeast side of the City successfully runs within Indiana Railroad's right-of-way connecting two signed bike routes.

Although the county has no official, marked routes for bicycling, the state routes and paved county roads continue to be well-used by local and regional bicyclists.

Secure and convenient bicycle parking is limited throughout the City. Since 1995, the City has required bike parking for new developments but not for existing establishments, as a result bicyclists are forced to lock their bikes to nearby street signs, trees, and light standards.

Sidewalk Inventory

Several neighborhoods are currently without sidewalks, have missing segments, or the sidewalks are unsafe and in need of repair.

The City of Bloomington recently conducted a thorough sidewalk inventory. The location and condition of each stretch of sidewalk has been recorded in the City's geographic information system and a prioritizing methodology has been established to determine key areas of the City in need of sidewalk repair, replacement, and new construction.

As the City considers additions to the existing sidewalk system the following methodology will be used to ensure the wisest possible investment of City funds. Elements of this methodology include:

- Identifying dangerous roads and intersections,
- Determining the number and frequency of trips generated from key destinations,
- Collecting and analyzing census data to determine areas that have high densities,
- Identifying location of transit routes and transit stops, and
- Allocating the City's resources evenly throughout the residential, commercial, and institutional land uses.

The City of Bloomington has a 50/50 program to share the cost of installation and repair of sidewalks with property owners. While this program has been successful, sidewalk construction is very expensive for both the City and landowner. This Plan recognizes sidewalks as an essential component of the alternative transportation and greenways system.

see Existing Bicycle & Pedestrian Facilities Map

see Sidewalk Inventory Map

Proposed Bicycle & Pedestrian Facilities

The Alternative Transportation and Greenways System Plan has evolved from public input, analysis of existing and potential facilities, and precedent research.

The Plan identifies key destinations in the City of Bloomington including student housing, Indiana University campus, schools, parks, and major employment and commercial centers. The Plan builds on the existing network of north-south and east-west routes as well as adds a loop around the City.

When possible, the proposed bicycle and pedestrian routes are identified within the City's road rights-of-way and utility easements. The Plan attempts to avoid the busier, more congested streets and intersections. However, this is not always possible, and careful consideration should be made to establish designated well-marked and continuous bike lanes and sidewalks to safely facilitate bicycle and pedestrian traffic.

Prioritizing and determining the type of facility (bike lane, signed route, sidepath, multi-use path, or sidewalk) for each route will depend on space availability, funding, user needs, and coordination with private and public projects. This Strategic Plan will assist staff and decision-makers with these issues.

Priorities for implementing the Alternative Transportation and Greenways System Plan shall focus on connecting key destinations and mitigating traffic congestion. As much as possible, such bicycle and pedestrian facilities should be built on existing City-owned land to minimize conflicts with adjacent land owners.

The proposed routes identified on the following maps are somewhat flexible in nature. The City should take advantage of opportunities to develop bicycle and pedestrian facilities through infrastructure improvements, private and public projects, and land acquistion providing they follow the basic principles outlined in the Alternative Transportation and Greenways System Plan.

Strategic Plan Schedule

The following lists of committed and proposed projects have been identified by City staff and the Alternative Transportation and Greenways System Plan Steering Committee.

The following criteria was used to develop the Strategic Plan schedule.

- Goals of the Plan - How does the proposed route meet the goals of the Alternative Transportation and Greenways System Plan?
- Purpose of Route - Will the proposed route be used for commuting, recreation, or a combination of the two?
- Potential Facility Use - Who will use the proposed bicycle and pedestrian facility? How many people? How often?
- Bridging Gaps - Does the proposed route link two or more existing routes or key destinations otherwise unconnected?
- Property Ownership - Does the City own the property? If not, is it for sale? Is an easement possible?
- Cost - What are the costs associated with developing the proposed route including land acquisition, design, construction, and maintenance?
- Timeline - Will the completion of the proposed route take one year, two years, or longer?
- Local & Regional Recognition - Will developing the proposed facility result in local or regional recognition of alternative transportation and recreational opportunities in Bloomington?

The charts and maps on the following pages identify committed and proposed bicycle and pedestrian projects for the next five years. The success of this Plan will be measured annually by the construction and maintenance of the projects identified.

2001 Committed Projects

PROJECT	TYPE OF FACILITY	ESTIMATED COST
Individual Projects:		
Washington Street and Lincoln Street (fill missing bike lane segments and repair/ replace sidewalks where determined from Hillside Drive to 12th Street)	Bike Lanes & Pedestrian Improvement, where necessary	$70,000
Morton Street (from 11th Street to 6th Street)	Bike Lanes	$2,500
11th Street (from Rogers Street to Walnut Street)	Bike Lanes	$2,500
Pete Ellis Drive (from 10th Street to Longview Avenue)	Sidepath	$90,000
Kingston Drive (from 3rd Street to Longview Avenue), Longview Avenue (from Kingston Drive to Pete Ellis Drive), and Clarizz Boulevard (from end of existing sidepath to 3rd Street)	Bike Lanes and Curb Cuts on Clarizz at intersections	$20,000
Smith Road (from 10th Street to 3rd Street)	Bike Lanes	$35,000
Jackson Creek (from Olcott Park to Sherwood Oaks Park)	Multi-Use Trail, Greenways Enhancements	$120,000
Pedestrian Movement Improvements:		
Southdowns Drive (from Woodlawn Avenue to Jordan Avenue)	Sidepath/Sidewalk off-road, or Bicycle/ Pedestrian Boulevard on-road	$150,000
Feasibility Study:		
10th Street and 3rd Street	Bike Lanes	$10,000
	TOTAL EST. COST	$500,000

OTHER 2001 CITY PROJECTS	TYPE OF FACILITY
Maxwell Lane (from Sheridan Drive to Rose Avenue)	Sidewalk
Hillsdale Drive/Eastgate Lane (from 7th Street to 45/46 Bypass)	Sidewalk
East 10th Street (from Grandview Drive to Bell Trace Retirement Community)	Sidewalk
Park Ridge Road (from Morningside Drive to Sheffield Drive)	Sidewalk

see 2001 Proposed Projects Map

see 2002 Proposed Projects Map

2002 Proposed Projects

PROJECT	TYPE OF FACILITY	ESTIMATED COST
Individual Projects:		
Jordan Avenue (from 10th Street to 3rd Street)	Bike Lanes	$30,000
Monroe Street (from 17th Street to 10th Street and 14th Street to Tri North Middle School and Mills Pool)	Sidepath, Bike Lanes, Bicycle/Pedestrian Boulevard on-road between 10th & 11th	$35,000
Walnut Street and College Avenue (from 11th Street to 2nd Street)	Bike Lanes	$25,000
10th Street (from Morton Street to Union Street, based on feasibility study)	Bike Lanes	$40,000
3rd Street (from Kingston Drive to Clarizz Boulevard and gaps from Smith Road to SR 446)	Sidepath	$120,000
Pedestrian Movement Improvements:		
Country Club Road (from Rockport Road to Walnut Street)	Sidepath/Sidewalk	$150,000
Feasibility Study:		
Not Identified (current year or subsequent year project)	Preliminary Design, Survey, Land Acquisition	$80,000
Signage, Awareness, and Education:		
(first 3 years of the Plan only)	Signs, Maps, Programs, etc.	$20,000
	TOTAL EST. COST	$500,000

OTHER 2002 CITY PROJECTS	TYPE OF FACILITY
College Mall Road (from 2nd Street to Moores Pike)	Sidepath/Sidewalk
3rd Street (from Clarizz Boulevard to Smith Road)	Sidepath
Clear Creek Trail Phase II (from That Road to Church Lane)	Multi-Use Trail
North Dunn Street (from 45/46 Bypass to Tamarack Trail)	Sidepath
Grimes Lane (from Henderson Street to Woodlawn Avenue)	Sidewalk
Bryan Park (from Henderson Street to Woodlawn Avenue)	Multi-Use Trail
Miller Showers Park	Multi-Use Trail

2003 Proposed Projects

PROJECT	TYPE OF FACILITY	ESTIMATED COST
Individual Projects:		
17th Street (from Dunn Street east to the 45/46 Bypass)	Sidepath/Bike Lanes	$95,000
West 3rd Street (from Adams Street to Landmark Avenue)	Bike Lanes	$35,000
East 3rd Street (from 45/46 Bypass to Indiana Avenue, based on feasibility study)	Bike Lanes	$40,000
Victor Oolitic Trail Improvements	Trailhead, surface and drainage improvements, add signage	$80,000
Pedestrian Movement Improvements:		
Rhorer Road (from Victor Oolitic Trail to Sare Road) or South Rogers Street (from 2nd Street to Country Club Road)	Sidepath/Sidewalk	$150,000
Feasibility Study:		
Not Identified (current year or subsequent year project)	Preliminary Design, Survey, Land Acquisition	$80,000
Signage, Awareness, and Education: (first 3 years of the Plan only)	Signs, Maps, Programs, etc.	$20,000
NOTE: If TEA-21 funds are not available to develop a multi-use trail along Jackson Creek then the above list of projects may change accordingly to fund this project.		
	TOTAL EST. COST	$500,000

OTHER 2003 CITY PROJECTS	TYPE OF FACILITY
West 3rd Street Widening Project (from SR 37 to Landmark Avenue)	Bike Lanes
East 10th Street (from the 45/46 Bypass to Pete Ellis Drive)	Sidepath
45/46 Bypass (form Kinser Pike to Fee Lane)	Sidepath

see 2003 Proposed Projects Map

see 2004 Proposed Projects Map

Strategic Plan

2004 Proposed Projects

PROJECT	TYPE OF FACILITY	ESTIMATED COST
Individual Projects:		
CSX Rail-to-Trail Conversion (from Country Club Road to Adams Street	Multi-Use Trail, Greenway Enhance-ments	$400,000
Feasibility Study:		
Not Identified	Preliminary Design, Survey, Land Acquisi-tion	$80,000
Signage, Awareness, & Education: (first 3 years of the Plan only)	Signs, Maps, Pro-grams, etc.	$20,000

NOTE: If TEA-21 funds are not available to develop a multi-use trail along Jackson Creek then the above list of projects may change accordingly to fund this project.

TOTAL EST. COST	$500,000

OTHER 2004 CITY PROJECTS	TYPE OF FACILITY
45/46 Bypass (from Fee Lane to 3rd Street)	Sidepath, Overpass/ Underpass

2005-2010 Sample Key Projects

PROJECT	TYPE OF FACILITY	ESTIMATED COST
Individual Projects:		
Union Street (from 10th Street to the 45/46 Bypass)	Improve existing Sidepath, add new Sidepath	N/A
Indiana Avenue and Dunn Street (from 17th Street to 3rd Street)	Bike Lanes	N/A
17th Street and Arlington Road (from Walnut Street to Bloomington North High School)	Bike Lanes	N/A
North Walnut Street (from the 45/46 Bypass to Old SR 37)	Bike Lanes	N/A
Fee Lane (from 10th Street to the 45/46 Bypass)	Bike Lanes, Sidepath/ Sidewalk	N/A
Rogers Street and Kinser Pike (from the 45/46 Bypass to 2nd Street)	Sidepath/Sidewalk	N/A
Bloomfield Road widening (from College Avenue to SR 37)	Bike Lanes	N/A
Liberty Drive	Bike Lanes	N/A
East Fork Jackson Creek	Multi-Use Trail, Greenways Enhance-ments	N/A
CSX Rail-to-Trail Conversion	Multi-Use Trail, Greenways Enhance-ments	N/A
Cascades Park (Miller Showers Park to Old SR 37)	Bike Lanes, Multi-Use Trails, Greenways Enhancements	N/A
	TOTAL EST. COST	$500,000/yr

see 2005-2010 Proposed Projects Map

see Bicycle & Pedestrian Facilities Network Map

see Bicycle & Pedestrian Facilities
Northwest Quadrant Map

see Bicycle & Pedestrian Facilities
Northeast Quadrant Map

see Bicycle & Pedestrian Facilities
Southwest Quadrant Map

see Bicycle & Pedestrian Facilities
Southeast Quadrant Map

Preface

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Tab One - Strategic Plan

Tab Two - Plan Development

Tab Three - Design Guidelines

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Executive Summary

The City of Bloomington is undertaking an important step toward mitigating traffic congestion and improving the health, fitness, and quality of life of its residents. The Alternative Transportation and Greenways System Plan represents a commitment by the City to design, construct, and maintain a network of safe, convenient, and attractive bicycle and pedestrian facilities for commuting and recreational use throughout the City.

One key benefit of an alternative transportation and greenways system is to minimize the use of cars, especially for short, frequent trips. The City of Bloomington's streets have many more vehicles on them then they were designed for or originally intended to carry. This has resulted in increasing road maintenance costs, building new and wider roads, traffic congestion, driver frustration, longer commute times, and increased use of nonrenewable energy resources.

In addition to mitigating traffic, a network of bicycle and pedestrian routes will result in many other benefits the City is striving to accomplish. These include:

- Further enhancing the community image,
- Further enhancing local quality of life,
- Promoting healthier lifestyles,
- Reducing commuting costs,
- Expanding tourism opportunities and experiences,
- Building the City's assessed value,
- Increasing and stabilizing property values,
- Enhancing the local economy,
- Aiding business recruitment efforts,
- Providing opportunity for people unable to drive or people without cars,
- Improving the natural environment, and
- Preserving natural areas.

The Alternative Transportation and Greenways System Plan is composed of three sections. These include:

1. Strategic Plan,
2. Plan Development, and
3. Design Guidelines.

The Strategic Plan section introduces the overall network of bicycle and pedestrian facilities as well as identifies key projects for the first five years. The Plan Development section outlines the benefits of alternative transportation and greenways development as well as the vision, goals, and objectives for the Plan. The Design Guidelines section sets standards to ensure uniformity of bicycle and pedestrian facilities throughout the City.

Implementing the Alternative Transportation and Greenways System Plan will require a cooperative effort among public agencies, private and nonprofit organizations within the City of Bloomington and Monroe County. To facilitate such coordination, the Alternative Transportation and Greenways Plan recommends the creation of a new staff position within the City structure. This person will be responsible for coordinating projects and obtaining funding for design, construction, and maintenance of bicycle and pedestrian facilities throughout the City.

The Alternative Transportation and Greenways System Plan should not be viewed as a static, set in stone series of ideas or projects. For the Plan to be effective it must be reviewed, evaluated, and when necessary updated to reflect changing trends and attitudes of the community. In doing so, the City of Bloomington can collectively reduce resistance to alternative transportation and develop a network of bicycle and pedestrian facilities that take advantage of opportunities and avoid potential pitfalls.

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Plan Directive

The directives of the plan established at the inception of the process are as follows:

- Establish a community vision for alternative transportation and greenways,
- Identify key destinations and potential linkages within Bloomington,
- Develop a conceptual design for alternative transportation and greenways routes,
- Identify goals and objectives to guide future decision making, and
- Coordinate this plan with Bloomington's Growth Policies Plan, Parks Master Plan, and Thoroughfare Plan.

Note: The directives for the plan were supported and embraced by the public, steering committee, and staff throughout the process.

Why Develop this Plan?

The pursuit and implementation of an alternative transportation and greenway system plan has resulted from noticeable increases in traffic congestion in the City of Bloomington.

Streets and parking areas in Bloomington are increasingly more crowded than in the past. In fact, in recent years the City has noticed a disproportional increase in vehicular traffic in comparison to population growth. According to the City of Bloomington/Monroe County Year 2025 Long Range Transportation Plan, the population and traffic congestion in Bloomington are increasing at a disproportional rate: 1.2% and 5% respectively, leading to increased traffic problems.

The City of Bloomington is a progressive community that recognizes bicycling, walking, and public transit as a necessity for future vitality, stability, and especially quality of life. However, construction of bicycle and pedestrian facilities has lagged behind this recognition.

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Overview of the Planning Process

In the fall of 2000, the planning effort was initiated to develop an Alternative Transportation and Greenways System Plan for the City of Bloomington. Since this plan addresses alternative choices for commuting and mobility in their community, it was essential that citizens have a voice in shaping the plan. In fact, the City leadership emphasized that this effort be a grass-roots planning effort.

Because public input was so vital in the preparation of the Alternative Transportation and Greenways System Plan for Bloomington, a steering committee of sixteen people from diverse backgrounds was formed. This group was asked to serve as a sounding board on behalf of the community throughout the planning process. In addition, to steering committee meetings, two public workshops and extensive key interest group interviews were held to gather information and ideas from the community.

How to use this Document

The Alternative Transportation and Greenways System Plan is intended to be adopted and used in daily and long-term decision making by elected and appointed officials and City staff. These individuals, as well as the general public, should become familiar with the goals and objectives of the plan and implement them to the greatest extent possible.

The concepts, goals, and objectives discussed in this Plan should complement the Growth Policies Plan, Thoroughfare Plan, and Parks Master Plan.

This Plan reflects the current and anticipated alternative transportation needs of Bloomington. However, this is a living document and must evolve with the evolution of the City. To be effective, this plan should be reviewed, evaluated, and updated every ten years to reflect changing trends, outlooks, and thinking of the community. The Strategic Plan and Design Guidelines sections of this Plan should be reviewed and updated annually. In this way, the plan remains a relevant guide to future alternative transportation and greenways planning in Bloomington.

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City of Bloomington Mayor
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Anthony Pizzo
Timothy Mayer
Andy Ruff
Patricia Cole
Jason Banach
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Jeffrey Willsey
David Sabbagh
Chris Gaal

Alternative Transportation and Greenways System Plan Steering Committee
Jack Baker
John Blackketter
Buff Brown
Scott Burgins
Steve Cotter
Scott Dompke
Chris Gaal
Bill Hayden
Mike Litwin
Sheryl Lockridge
Lew May
Mary Ogle
David Smith
Gayle Stuebe
Dave Williams
Justin Wykoff

City of Bloomington Key Staff
Tom Micuda, Planning
Tricia Collingwood, Planning
Dave Williams, Parks & Recreation
Justin Wykoff, Public Works

City of Bloomington Funding Sources
Planning Department
Parks & Recreation
Public Works Department

Project Consultant
Ratio Architects
Suite 100, Schrader Building
100 South Pennsylvania Street
Indianapolis, Indiana 46204